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THE
DUBLIN QUARTERLY JOURNAL
OF
MEDICAL SCIENCE.

[S2T.2]
VOL. XXXIV.

AUGUST AND NOVEMBER, 1862.

DUBLIN:
FANNIN AND COMPANY, GRAFTON-STREET.
LONDON: LONGMAN & CO.; SIMPKIN, MARSHALL & CO.;
J. W. DAVIES.
EDINBURGH: MACLACHLAN & STEWART.

1862.

DUBLIN :

JOHN FALCONER, PRINTER TO HER MAJESTY'S STATIONERY OFFICE, 53, UP. SACKVILLE-ST.

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THE
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OF
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C O N T E N T S.

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THE history of the operation of paracentesis thoracis affords a striking illustration of the slow growth of human knowledge and the difficulty of arriving at fixed principles in the treatment of disease. From the time of Hippocrates down to the present day there is no scarcity of recorded operations; the annals of science from the earliest era describe thoracentesis as a recognised surgical

^a As this communication was written previous to the last issue of the Dublin Quarterly Journal I had no opportunity, until subsequently, of perusing the valuable clinical observations of Professor Banks on Thoracentesis, and the Employment of the Drainage Tube. It is very satisfactory to me to know that his views as to the applicability of the operation to many cases of empyema and hydrothorax, generally supposed to be out of reach of relief by surgical treatment, are quite in unison with my own, or even go beyond them.

procedure; the ancient Greek, Roman, and Arabian physicians practised it; nevertheless it does not appear that the moderns, with all their advantages of a sounder pathology and refined diagnosis, have progressed much in advance of the patriarchal sages of medicine in establishing definite precepts regarding some of the most important points in connexion with the operation. It might, indeed, have been expected that the discoveries of Laennec in that department of medicine with which his name is immemorably associated, and the advances since made by several illustrious followers, would have led, ere now, to something like unanimity of opinion respecting the surgical treatment of pleural effusions—still it is to be regretted that much uncertainty and difference of opinion yet prevails amongst the most distinguished authorities in regard to several practical questions connected with this very important subject.

At what period should we operate in cases of simple pleuritic effusions, and to what extent should the slowness or rapidity of the effusion influence our conduct? What are the indications for the operation in cases of secondary effusions, whether depending upon diathetic or general diseases, or determined by irritation in the lungs or adjoining organs? How, and in what manner, should the nature of the fluid, whether serous, sero-albuminous, purulent, &c., modify the operation? Should the fluid be drawn off gradually, and at successive times, or is it desirable to obtain a complete evacuation of the chest in the first instance? Under what circumstances is it desirable to close the wound after the operation, or leave it patulous? Does the situation of an empyema as to right or left side lead to any special indications? These are questions that might each furnish an appropriate subject for a separate thesis, and which, if submitted to the ordeal of general discussion, would in all probability receive very diversified answers. In truth there is yet wanting an extensive series of accurately recorded cases to constitute reliable data from which just inferences might be drawn as to the success of the operation, whether considered generally or with reference to its performance in particular complications of disease. A statistical table, no matter how voluminous, which amasses all cases indiscriminately, and fails to record minutely the variable conditions under which the operation is performed, whether as respects the constitution or diathesis or the state of local organs, more especially the lungs, fails to simplify the problem, or to eliminate formulæ for our guidance based upon something like definite principles.

The subjoined cases, it will be seen, present a striking contrast to each other almost in every respect:—

CASE I.—*Acute Pleurisy, followed by Pulsating Interlobar (?) Empyema (not of necessity), Thoracentesis, and Recovery.*

William Russell, aged 35, a farm labourer, of temperate habits and sound constitution, but much exposed to wet and hardship, was attacked, about five years ago, with pneumonia on the right side. He was treated with diaphoretics and counter-irritants; was neither bled nor mercurialised; and made a perfect recovery in the space of three weeks. Again, in the August of 1859, after exposure to cold, he was seized with pain in the left side, preceded by shivering, and attended with the ordinary symptoms of pyrexia; there was, moreover, a short harassing cough, with scanty mucous expectoration. He came under my care on the eighth day of his illness; his pulse was then frequent, but soft, and his countenance depressed and anxious; he was restless and nervous, and complained much of thirst and want of sleep; the pain in the side had abated; but the cough was troublesome, and the sputa consisted of a viscid, grayish mucus. His respiration was hurried, irregular, and performed with an occasional sigh; he preferred lying on the left side. The physical signs were those of pleuritis, with bronchial congestion. The lower half of the left side was dull on percussion; respiration distant, feeble, and tubular; there was a soft friction sound in the inframammary region, and an ægophonic vocal twang below the axilla; the heart's sounds were normal; over the remainder of both lungs the respiratory murmur was loud, but attended here and there with snoring rhonchi. The urine was of normal density, and contained no albumen. Ptyalism was established by the exhibition of calomel and Dover's Powder. The side was subsequently blistered. I deemed it advisable to maintain a mild mercurial action for some days, because of the continuance of the cough and respiratory distress, and the physical signs of effusion. It was necessary also to renew the blister. About the nineteenth day of his illness I made the following observations:—Heart pulsates behind the lower part of sternum; marked percussion dulness on left side, from the fifth rib downwards; midway between the sternum and spine, rather below the level of the nipple, and corresponding to an area of about four inches square, a distinct heaving impulse is communicated to the hand placed upon the side; this pulsation is visible, jogs the

ear laid upon the stethoscope, but is unattended with bruit or murmur of any kind. The intercostal intervals are not effaced; there is no œdema of the integuments; the breathing sound is absent corresponding to the extent of dullness, except posteriorly and inferiorly, when a feeble, distant, respiratory murmur is audible on forced inspiration. No convexity of the diaphragm or depression of the spleen can be detected in the hypochondriac region; pulse soft and frequent; cough distressing and paroxysmal; expectoration tough and muco-purulent. To have decoction of bark with iodide of potassium and a sedative cough mixture. A strong solution of iodine to be applied externally.

September 12.—Patient greatly altered for the worse in every respect; cough racking and constant; expectoration of a yellowish-gray colour, copious, and fetid; pulse rapid and weak. The physical signs have increased in distinctness; the cardiac rhythm is perceptible to the right of the sternum, and the area of pulsation in the lateral region is more obvious to the eye, as also to the touch; between the fifth and seventh ribs, and from the nipple back to within a few inches of the spine, the chest can be seen and felt to heave synchronously with the heart's systole; the corresponding intercostal intervals are scarcely so well pronounced as elsewhere, and there is slight local bulging, but neither redness nor œdema.

At my next visit the patient's condition was all but hopeless; there was orthopnea, a rapid vermicular pulse, hurried breathing, moist skin, copious, fetid, purulent sputa, countenance dusky, and strength rapidly failing. Thoracentesis was now the only alternative left me, and I immediately performed it. Drawing the skin a little to one side, I pushed a trocar steadily through the sixth intercostal space, a short distance behind and below the nipple, keeping the instrument close to the upper edge of the rib below. Upon its withdrawal a stream of abominably fetid, viscid, greyish-yellow, purulent matter issued, per saltem, or rather in a periodically accelerated current, through the canula; the quantity discharged in this manner measured about a pint—when I withdrew the tube, and dilated the opening freely with a probe-pointed bistoury, so as to obtain a free and continued vent for the contents of the cavity. The patient, to whom stimulants were freely administered, bore the operation well; and expressed himself, shortly afterwards, as being greatly relieved. A poultice was applied over the opening, and he was directed to lie as much as possible on the left side.

The subsequent history of the case is easily told. It was one of

gradual, but uninterrupted recovery. The patient rallied, his strength increased, the cough became less harrassing, and the exhausting expectoration and sweats declined from day to day; the opening remained fistulous, and continued to discharge for several months; gradually, as the cavity emptied itself, the heart moved from right to left into its normal position. At no time, either previous or subsequent to the operation, was I able to recognise the ordinary phenomena of pneumothorax, namely, succussion, metallic tinkling, or amphoric respiration. It is scarcely necessary to state that the strength of the patient was sustained by the free use of tonics, stimulants, and animal food. He now enjoys excellent health. I examined his side a few days ago; it is very slightly contracted; on percussion it is scarcely so resonant as the opposite; nor is the respiratory murmur so loud; but there is no marked alteration in its physical condition, such as we are accustomed to meet with as a consequence of suppurative pleurisy.

Apart from the successful result of thoracentesis, the foregoing case presents features of very unusual interest. Pulsation has often been observed in cases of "empyema of necessity;" and a valuable paper on the subject was published some years ago in this Journal, by Dr. M'Donnell.^a A throbbing of the lung, in certain cases of pneumonic consolidation, was noticed by Laennec; and a unique case of pulsating pneumonia, attended with *bruit de soufflet*, is given by Graves in his *Clinical Medicine*. Cases, however, of throbbing empyema such as the foregoing, unattended with perforation of the costal pleura, and accumulation of pus under the skin, must be exceedingly rare. Walshe, indeed, has twice seen cases of this description, and refers to them in his recent work on Diseases of the Lungs and Heart.^b What, it may be asked, are the conditions necessary to the production of pulsation in the exceptional cases of pleural effusions in which it occurs? Or, why is it that the stroke of the heart is communicated to some fluid collections and not to others? In most of the cases in which it has been observed, the impulse was strong, diastolic, and heaving, like that of an aneurism; from which it may be inferred that the empyema was so circumstanced as to be subject to the well-known hydrodynamical law of

^a Dublin Journal of Medical Science, March, 1844.

^b Walshe on Diseases of the Lungs and Heart, Second Edition, page 396. See also the history of a case of pulsatory empyema, in the Dublin Hospital Gazette, October 1, 1860. This case is fully reported by Dr. Henry Johnston, of Belfast, who also gives in detail the appearances presented at the necropsy. The patient was also seen by Dr. Stokes and other physicians.

the propagation of pressure through fluid bodies. Now, if we suppose an empyema to be encysted, or closely pent up by adhesive matter, and that the contained fluid, without the interposition of yielding lung substance, comes into direct relation with the mediastinum internally, and the chest-wall on the outside, we have all the conditions furnished for supplying the phenomena of pulsation.

I believe the case just detailed to have been an interlobar encysted empyema, for the following reasons:—1. Although, in the first instance, the effusion occupied the general pleural cavity, as indicated by the physical signs, at a later period respiration was distinctly heard postero-inferiorly, at a time when it was totally absent higher up over the area of pulsation. 2. There was no depression of the diaphragm or spleen. 3. The attack was not followed by contraction of the side, immobility of ribs, curvature of spine, or concentric displacement of organs. 4. The pulsation corresponded to the line of the interlobar fissure. 5. The fluid discharged was viscid, as it were from admixture of mucus. In connexion with this latter fact it is important to remark, that at no time previous to the operation were the phenomena of pneumothorax to be observed. This I am certain of, from careful and often-repeated examinations. There was consequently no direct communication between the cavity of the abscess and the bronchial ramifications; still the fluid resembled a mixture of pus and mucus. We can only account for this fact by a reference to the laws that determine the mutual diffusion of fluids of different densities when separated by moist membranes or porous substances. If the matter lay, where I believe it did, in the fissure between the two pulmonary lobes, it was surrounded on all sides by lung-substance, and necessarily brought into close relation with numerous bronchi, between the contents of which and the interlobar collection an *exosmose* and *endosmose* might with facility occur. The patient, for several days previous to the operation, coughed up large quantities of purulent matter; and had his strength withstood the effort, and the urgency of the symptoms not called for the artificial evacuation of the collection, the latter might have been eliminated without surgical assistance. This spontaneous cure of empyema has often been referred to a so-called “vicarious action” of the bronchial mucous membrane. Does not this case afford a clue to the precise nature of the process; and may we not (preferring the expression of a philosophical fact to the use of a metaphor) more appropriately attribute the result to the operation of the physical law just referred

to? Thus, then, the pyogenic sac was interlobar, and extended transversely across the great pulmonary fissure, coming into close proximity centrally with the heart, and externally with the chest-wall; and its contents forming a continuous fluid column, received and propagated outwards the cardiac pulsation, after the manner of an aneurism.

In the next case thoracentesis was performed under the most unfavourable circumstances. Nevertheless, in the abstract it was signally successful, and prolonged the life of the patient for some months, his death at length occurring from causes having no relation to the operation.

CASE II.—*Bronchitis, attended with Symptoms of General Dropsy and Engorgement of the Liver; Copious Effusion into Right Pleura, with Eccentric Displacement of Heart and Diaphragm; Relieved by Thoracentesis.*

I was requested, in the July of 1860, to visit, in consultation with Dr. Smith, of Manorcunningham, a coachman of Archdeacon Goold's. He was a person of lymphatic temperament, and middle stature, aged about 40. Up to three weeks previous to my seeing him he had enjoyed tolerably good health; when, after exposure to cold, he was attacked with cough and difficulty of breathing, without stitch in the side or well-marked pyrexial symptoms; the respiratory distress increased, his legs became œdematous; and subsequently the peritoneal sac and right pleura contained liquid effusion; the liver was evidently engorged; and the patient presented an icteroid appearance; he expectorated frothy mucus in small quantities; whistling and cooing rhonchi were audible in both lungs; and the right side, from the angle of the scapula downwards, yielded a dull percussion sound; but there were as yet no distinct signs of eccentric displacement either of the heart or liver; nor was the contour of the intercostal intervals in the slightest degree altered; the urine was scanty, of high density, but contained no albumen. The cardiac rhythm was regular, and unattended with augmented impulse, friction sound, or abnormal murmur of any kind. Mercury had already been pushed to ptyalism. Subsequently the iodide of potassium and diuretics were exhibited without any very beneficial results. Active purgation, by unloading the portal vessels, and diminishing hepatic fulness and abdominal effusion, afforded temporary relief. At length there came a marked aggravation of all the thoracic symptoms—choking cough, fearful breathlessness, and

the most distressing sense of suffocation. There was a corresponding alteration in the physical signs; the dulness extended up to near the spine of the scapula; the heart pulsated to the left of the corresponding nipple; and the diaphragm, convex downwards, depressed the right lobe of the liver into the lumbar region, so that the latter organ lay obliquely across the abdomen, and a well marked sulcus separated its upper edge from the hypochondriac margin; the right side of the chest, measured on a level with the ensiform cartilage, exceeded the left by nearly two inches. There were finally orthopnea, livid lips, dusky countenance, and somnolency; and I performed thoracentesis as a *dernier ressort*.

Drawing the skin to one side, I pushed a small trocar midway between the sternum and spine, through the sixth intercostal space, and having adjusted a stop-cock to the canula, drew off, by means of a strongly-expanding India rubber bag, a large basinful, and upwards, of a straw-coloured serous fluid. By turning the stop-cock at intervals, as the bag filled itself, and carefully readjusting the latter when emptied by compression, the fluid was gradually drawn off without the possibility of the entrance of air into the pleural cavity. The patient, during the operation, became exceedingly agitated and weak, insomuch so that I thought it prudent to withdraw the canula, leaving behind a considerable quantity of liquid effusion. In an hour afterwards the patient had become tranquil, spoke hopefully, and breathed with moderate freedom; and I ascertained that the liver ascended, and that the heart also had moved towards its normal position. Where dulness previously existed there was now a clear percussion sound, and a rustling sort of respiration was audible, with mucous bubbling; and the patient had commenced to expectorate copiously a frothy sero-mucous fluid. The liquid evacuated, upon cooling, divided itself into two portions, a tremulous jelly-like coagulum, and a clear supernatant serum. The operation was not followed by the slightest indication of pleurisy, and in 12 days the patient was able to walk about; his convalescence proceeded gradually, until all signs of hydrothorax had disappeared, so that I began to entertain hopes of his permanent recovery; but the cough and symptoms of bronchial congestion never altogether left him; he continued pale and puffy about the eyelids, and breathless upon slight exertion. Dr. Smith, who had the exclusive care of the patient for three months previous to his death, tells me that there was never any indication of a reaccumulation of fluid in the pleura, but that he became weaker from day to day, with a rapid

irregular pulse, and a return of œdematous extremities. A drowsiness and wandering of the mind preceded coma, the patient dying with all the symptoms of serous apoplexy.

It would serve no useful purpose to detail the various plans proposed at different times for removing the fluid contents of the pleura in empyema and hydrothorax; nor shall I, in the few observations I am about to make, enter upon the subject of diagnosis, or discuss various other topics that are amply treated of in the ordinary medical class books; the objects I have chiefly in view are, first, to sketch briefly the particular morbid states that may call for the performance of thoracentesis, and afterwards to indicate what I conceive to be the just pathological principle which should guide us in our mode of performing the operation.

The most extraordinary fact connected with the history of paracentesis thoracis is the variable amount of success that has hitherto attended it in different hands—the most discordant results have been obtained by men of equal experience, and possessing similar advantages for observation—nevertheless, although individual opinion has differed so widely respecting the merits of the operation, it is now demonstrated that its general result is most encouraging, whether considered as a curative or merely palliative measure. The very important contributions of Bennett, Hughes,^a Hamilton Roe,^b and Phillips,^c place the statistics of the operation in a very favourable position, and have contributed in a great measure to remove the erroneous views, respecting its danger, rather generally entertained by the profession. Nevertheless, much diversity of opinion still exists as to when and in what cases thoracentesis ought to be performed.

I think the following enumeration will be found to embrace nearly all the conditions under which the proceeding is likely to be contemplated:—Cases of hyperacute pleurisy, attended with rapid effusion and eccentric pressure, so formidable as to threaten suffocation; cases of pleurisy in which, after the ordinary treatment has failed to remove the effusion, the latter remains either stationary or increases; in empyema proper, or pyothorax, when the strength of the patient is unable to bear up against the suppurative crisis, or asphyxia is imminent; in cases of chronic pleurisy, or latent effu-

^a Guy's Hospital Reports, Vol. ii., New Series. 1844.

^b Medico-Chirurgical Transactions, Vol. xxvii., p. 198. 1844.

^c Medico-Chirurgical Transactions, Vol. xxvii.

sions, occurring, for the most part, in young subjects, after the failure of ordinary measures; unabsorbed effusions incident to Bright's disease, attended with dangerous thoracic distress; pleural collections, persisting as sequele of the exanthemata, or continued fever; passive dropsy of the pleura, attended with symptoms of impending suffocation, complicating organic disease of the heart and lungs; certain cases of pyo-pneumothorax produced by the sudden bursting of vomicae into the pleural sac; some examples of the same condition, the consequence of sloughing of the lung and pleura; traumatic lesions, where the presence of blood, air, pus, or other effusions is productive of hazardous pressure irremediable by other means.

From a glance at the foregoing category it must appear obvious that no approach to a uniformity of symptoms or physical signs can be arrived at as an indication for the operation; the whole series, however, as respects the remedy in question, may be arranged into three groups:—

1. Cases in which thoracentesis, in the absence of symptoms of immediate urgency, may be employed as a curative measure.

2. Cases in which the operation can only be considered as a palliative remedy.

3. Cases in which it may be had recourse to as a *dernier ressort*.

I apprehend that the greater number of the conditions above specified are such as would be considered, by the majority of practitioners, beyond all hope of cure, or even relief, from any operative measure, still I cannot avoid entertaining a belief that the value of thoracentesis, rendered more perfect and safe as the mode of performing it comes to rest upon sounder principles than heretofore, will by-and-by be generally recognised by the profession; and that the operation will be practised earlier and oftener, and on the whole, perhaps, with fewer misgivings as to the ultimate issue than paracentesis abdominis, which is, with very few exceptions, only had recourse to as a palliative remedy. Indeed it is difficult to understand the reason of the low estimation in which this valuable expedient has been hitherto held, seeing that it is neither painful nor difficult of performance. Surgeons, at various times, hesitated not to take the most unwarrantable liberties with the skull; trepanning for simple fissures, even in the absence of cerebral symptoms;^a making counter-openings for the extraction of foreign bodies; and employing the trephine when patients were in the

^a This, it is almost unnecessary to state, was the practice of Percival Pott.

agony, at the same time that the precincts of the pleural sac were held well nigh inviolate, or rarely approached except by some bold operator, and not without timidity and mistrust; nor will the imperfection of physical diagnosis explain this irrational caution or neglect of the operation so long evinced by practitioners; it is well known that many of the principles of thoracic diagnosis were understood by Hippocrates, and that pleural effusions were accurately recognised by various physicians long previous to the discoveries of Laennec.

No doubt one of the chief causes that heretofore retarded what may be called the *normal* success of the operation was the circumstance of its being seldom practised except as a *dernier ressort*; however, it is now properly employed as a means of cure in various cases of pleuritic effusion, after antiphlogistics, mercurials, iodine, diuretics, &c., have failed to effect the absorption of the fluid, and when further delay could only tend to organize pathological products, and consolidate incurable alterations of structure. Nor are instances wanting to demonstrate the signal benefit to be derived from the operation as a merely palliative remedy. Cases are recorded in the proceedings of the Dublin Pathological Society, by Drs. Corrigan, Law, and McDowell, and also by other physicians elsewhere, which are quite conclusive upon this head. Nor are there wanting numerous examples of the fortunate result of the operation even when had recourse to as an "ultimatum." The two cases that suggested the present communication were of this character; one of the patients made a perfect recovery, and is still living; the other died several months after the operation, his disease having no relation whatsoever to it.

In connexion with the various plans proposed for tapping the chest, it appears to me that a point of paramount importance has failed to receive from surgeons the consideration it deserves, namely, the physical characters of the fluid to be evacuated. Each practitioner recommends a particular mode of operating, without any reference whatever to the quality of the pleural contents. Would, I may ask, collections in other parts of the body of serous, sero-sanguineous, sero-albuminous, and purulent fluids be treated alike, and by the same surgical procedure? Do not surgeons every day practically recognise the difference between chronic, cold, acute, symptomatic, and other abscesses and collections, and act accordingly? How comes it that pleural effusions, of whatever character, should be placed in the anomaly of having only one plan of proceeding applicable to them? Surely here must be an oversight. Until

lately surgeons had an unfounded dread of opening even acute purulent collections in certain localities—for example, in connexion with the larger joints. This prejudice, however, is fast dying away; and if the practice first insisted upon by Mr. Gay were oftener and more promptly executed we should have, perhaps, fewer cases of “resection,” an innovation which has of late years become so very fashionable.

Let us endeavour, then, to apply the common principles of pathology to the treatment of hydrothorax and empyema, and seek to apprehend correctly the ordinary operations of nature in the removal of these diseases. How does the spontaneous cure of pyothorax take place? Here as elsewhere the purulent matter tends to the surface, and is either discharged into the bronchi or penetrates the chest-wall through an intercostal space; atmospheric air has access to the sac of the abscess; gradually the suppurative action lessens as the cavity contracts; and, if the strength of the patient be equal to the effort, a cure is effected. How differently does nature proceed in her task of eliminating serous, sero-albuminous, and non-purulent collections in the same locality. These latter are never discharged *as such* in the manner just described; they are either directly absorbed, or of necessity undergo the *purulent transformation* preparatory to their opening into the lungs, or externally. May not these considerations be suggestive as to the most eligible mode of performing thoracentesis in different instances, and moreover throw some light upon the long-debated question of the influence of atmospheric air when admitted into the pleural cavity.

It is almost superfluous to remark, that some operators suppose this gaseous body to possess a most pernicious influence, whilst others believe it to be perfectly innocuous. That atmospheric air itself exerts no irritating influence on the tissues of the body is rendered pretty evident by the phenomena of general emphysema, as also of simple pneumothorax, whether traumatic or occurring as a consequence of rupture of a dilated air vesicle; although the cellular tissue of the body may be inflated so as to resemble a “stuffed skin,” and the pleura distended almost to bursting, no erethism or reactive inflammation is the consequence of the lesion. But that atmospheric air, on some occasions, does exert a deleterious effect is unquestionable; but it so acts, not by reason of its stimulating properties, but simply because it supplies one of the conditions under which putrefaction of purulent and other fluids is likely to

occur. Not that its presence is invariably followed by the chemical change in question. Laennec gives the case of a patient affected with broncho-pleural fistula, who for six years exhibited the signs of hydro-pneumo-thorax without either local or constitutional distress. Louis, and various other physicians, have witnessed similar instances. In truth the precise conditions under which putrefactive changes are generated in the pleura have yet to be determined; insomuch so that we are forced to admit, in addition to the acknowledged influence of heat and air, the presence of some unknown agent or state which disposes the fluid contents to undergo catalytic changes—or how explain the cause of the latter not taking place in the cases just referred to? Enough, however, is known to warrant the exercise of great caution in performing paracentesis so as to prevent the ingress of atmospheric air in certain pleuritic effusions of the non-suppurative class; whereas purulent collections in the cavity of the chest should form, in my opinion, no exception to the ordinary manner of dealing with similar diseases elsewhere.

In short, I would apply to pyothorax, or pure empyema, the surgical principle, to which there are few exceptions in acute or subacute suppurations; that of discharging the abscess by a free opening. Here, however, it is necessary to inquire where the perforation should be made when the case admits of a point of election? and we may not act unwisely by interrogating the *vis medicatrix* on this head. When spontaneous openings occur, are they not generally found anteriorly and high up? Nature then indicates these positions as being the most eligible by her own operations. Nor is the object of her method obscure or unintelligible. By causing the liquid contents to proceed from below upwards she guards against the sudden evacuation of a cavity (and consequent entrance and *imprisonment* of atmospheric air in proportionate volume) the walls of which can only approximate by slow degrees; thus the suppurating sac is emptied gradually by its own contraction; and the air, which can only enter in small quantity, has *free egress*, being *always uppermost*, and in close proximity with the discharging orifice. We should therefore, in conformity with these principles, not open the chest in a depending position; for if, unfortunately, afterwards, putrefactive changes take place, the septic gases floating above the other contents *have no exit*, are absorbed by the lining membrane of the cavity, excite inflammation of the latter, contaminate the blood, and produce typhoid symptoms. To prevent, then, putrid absorption, and its concomitant evils, let the empyema

be opened above—that is to say (when the case admits of our doing so), between the fourth and fifth ribs, anteriorly, and provide, if necessary, for the constant drainage of the abscess by the introduction of a Chassaignac's tube.^a

In cases, however, of hydrothorax, or sero-albuminous, sero-sanguineous, and passive collections in the pleural sac our operative proceedings should be guided by very different principles. In pyothorax a pyogenic membrane is already formed, and matter is making its way to the surface; by evacuating the collection we only complete an operation already commenced. But the other class of effusions referred to are very differently circumstanced; they are not included in an adventitious sac, or newly organised membrane, but lie in contact with the serous surface in a healthy condition, or only slightly altered in anatomical structure and vital endowments; the fluid evinces no tendency to reach the surface; if it disappear it is directly absorbed from the serous cavity, and is never evacuated externally without having previously undergone more or less of purulent metamorphosis. Therefore we should endeavour, in dealing with these immature collections, to avoid all causes of irritation, and to prevent, by all means in our power, the higher or suppurative grade of action not yet attained under existing conditions; in short, we should make the practice of art approach as closely as possible to nature's own operations, and not proceed in untimely advance of them. Accordingly the fluid ought, only in the first instance, to be partially withdrawn; the remainder may be absorbed into the system; if not, the tapping may be repeated. Valvular perforation of the integuments and the employment of a vulcanised India rubber bag and stopcock, or the ingenious trocar and canula invented by Mr. Charles R. Thompson, will effectually prevent the entrance of atmospheric air.^b

By proceeding in this manner we do not overstrain the vital

^a It may be necessary, in certain cases, to make a counter opening inferiorly, and draw the tube completely across the cavity. This plan of "drainage" has been adopted in two instances, by Dr. Goodfellow, with signal success. He reports them in the 42nd Volume of the *Medico-Chirurgical Transactions*. The practice, also of iodine injections after the cavity has been reduced to the condition of a fistula is well worthy of trial.

^b As suppurative action is not anticipated in the mode of operating referred to in the text, the point of election need not, as in pyothorax, deviate from that generally selected—namely, between the fifth and sixth or sixth and seventh ribs, and midway between the sternum and spine. When any doubt exists as to the nature of the fluid, the introduction of Dr. Babington's explerator will be found preferable to the grooved needle in ordinary use.

processes of the economy in their progress towards the restoration of health, but only disencumber them of impediments that check their free action, and, with full confidence in her resources, leave Nature to complete the cure by the continuance of her own efforts.

We first endeavour to comprehend the purposes and *modus operandi* of the *vis medicatrix*, and then follow faithfully in her path, without seeking, by premature interference, to reverse the natural order of pathological events, or force upon her contingencies for which she is as yet unprepared. In conducting the two cases which form the groundwork of this communication to a favourable termination I was guided by the principles just enunciated.

ART. II.—*Notes of an Unusual Abnormal Condition of the Mucous Membrane of the Tongue and Cheeks, considered in connexion with Life Assurance.* By J. MOORE NELIGAN, M.D.

ANY departure from the normal condition of the healthy body is of especial interest to the profession in its bearing on the question of life assurance; and it is chiefly with this view I am induced to put on record the following case. There are few public duties which the medical man has to perform of more importance to his professional character than that of the examination and selection of lives for assurance; his duty is here two-fold, involving sufficient care and discrimination to protect the company for which he is acting, and avoiding an unnecessary over scrupulousness in order that the interests of the individual proposing to be assured should not be damaged. Little has been written to guide the junior practitioner when called on to act in this capacity, although there is scarcely any in which he so much needs, and might derive so much benefit from, the advice of those of his seniors to whose lot it may have fallen to have had more than ordinary experience in the examination of lives. One especial difficulty is thrown in the way of medical men by the nature of the forms which they are called upon to fill up, and which are also intended to be guides to them as to the manner in which they are to conduct their examination. No uniform plan or form is adopted by assurance companies, and scarcely any two of them agree; in some undue prominence is given to mere trifles that can have but little effect on the duration of human life, while in others the most important points are left

unnoticed. I have before me now the form supplied to their medical officers by a recently established company, which contains no less than 36 questions to be put by them to the proposer, the mere recording the answers given to which, would, if conscientiously performed, occupy at least an hour, and, when recorded, the only value of many of them would be to puzzle the board of directors and their chief medical officer, before whom they would be laid for a final decision on the case. Take for example the following:—“Query 16. Can he run or take violent exercise without more than ordinary inconvenience? Query 19. How many miles does he walk each day, upon an average; and what other exercise does he take? Query 20. What is his usual beverage; beer, wine, spirits; and their general amounts? Query 21. Does he sleep well at night? Query 33. Is he active or sluggish; excitable or apathetic; nervous, cheerful, or of a fretting disposition?”!! On the other hand, in another form I have before me, there is no query as to the ages of the parents, or whether they are living or dead; one of the most important points, perhaps, in coming to a conclusion as to the chances of longevity. As the drawing up of these forms is usually left to the principal medical adviser of each company, it would be surely easy for the profession to agree upon, if not an uniform, at least, an approximate set of questions.

I should, perhaps, apologize for this digression, as it is not my intention at present to enter upon the general question of life assurance in its medical bearings; I merely wish to put on record a single case, in which, in a perfectly healthy body there existed a peculiar condition of the tongue, a description of any similar to, or resembling which, I have not been able to find on record.

H. E., aged 46 next birth-day, appeared before me to be examined for assurance on the 17th of April, 1857. In his paper he stated that he never had any illness since childhood, and that he never had occasion even to consult a medical man. His father died at the age of 78, and his mother was living, aged 77. He had, originally, two brothers and three sisters; his two brothers were dead, one at the age of three weeks, and the other at the age of 21 years of fever; one of his sisters died at the age of 48, of acute bronchitis; the other two were living, and in good health. As the result of my examination I reported, that on stethoscopic examination the heart and lungs were healthy, as were also the viscera in the other cavities, as far as could be ascertained; that he had the appearance of a person of the age stated, and of one whose habits

and mode of living had been uniformly temperate; that he was a stout, well-made man, about the middle height, of a sanguine temperament; and that there was nothing in his appearance or conformation that would lead one to suppose he had a tendency to any particular complaint. And, in giving my opinion on the life, I stated, that as regards his present health it was good; as to the state of the different organs, they were healthy, but the tongue was singularly affected, the natural membrane covering it and the inside of the cheeks being changed into a thick white skin, like a kid glove, and uneven on the surface; as to his constitution, that it appeared to be sound; and, as to the eligibility of the life for assurance, that it would be a first class life were it not for the state of the tongue, which I had never seen anything like before, nor could the proposer assign any cause for it; he said that it had been so for the last 30 years, that his taste was as perfect as that of any other person, nor had he any soreness or uncomfortable feel in it. I concluded my opinion by adding that in the case of so singular an affection I would advise an extra rate of five or seven years to be charged.

The condition of the mucous membrane of the tongue and inside of the cheeks here alluded to was very remarkable. The tongue was perfectly clean, that is to say, there was no fur on it, nothing that could be removed by scraping or washing; it was of a dead white colour, resembling, perhaps, rather the appearance of the surface of the tongue in a boiled calf's head than a kid-skin glove, the lustre of which it wanted; it was uneven on the surface, but not wrinkled or fissured, nor presenting the papillated character of the organ in its normal state, there was more a general unevenness. The same condition existed in the mucous membrane lining the cheeks, and the gums in contact with them, but the covering was evidently less thick; the roof of the mouth, the palate, the throat, the tonsils, and the uvula were quite natural in appearance. There was no unnatural dryness or change of temperature of the mouth; the salivary secretion was abundant, the gustatory powers perfect, described by the gentleman himself as being unusually sensitive, and the speech was in no way affected. On closely questioning him, he stated that he noticed this change when he was about 18 or 19 years of age, and that it then was just as complete as when I examined him. He thought when he first discovered it that it must have been caused by a habit he had of indulging in smoking to excess, and of always smoking the tobacco in the shortest

possible pipe, so as to get the smoke into his mouth as hot as he was able to bear it.

This abnormal condition was quite new to me, although I had examined many hundred of lives for assurance, nor after much research could I find any similar case recorded; however, not seeing anything of sufficient importance in it as being likely to shorten life, I gave the opinion above quoted; but the head office in London considering the case as one either for rejection, or for acceptance at the ordinary rates, on the advice of their chief medical advisers, who considered the favourable features to preponderate much over anything which could be regarded as unfavourable, decided on accepting it without any extra rate of premium. Much delay occurred in completing the transaction, in consequence of its being connected with a loan on landed property, and it being found necessary to assure the life for a much larger sum, this gentleman again appeared before me on the 25th of January, 1858, when I gave the following report:—"I hereby certify, that I, this day, examined H. E., and that his life is now as eligible for assurance as at the date of my former report upon it. I am still of opinion, that in consequence of the peculiarly unnatural state of the skin of the tongue and mouth, an extra rate of premium should be charged." Some correspondence then ensued between the head office and myself, in which I explained more fully my reasons for recommending the increased rate, the chief one being, that if any accident occurred to the tongue, in its abnormal state, cancer might result: finally the life was accepted at an extra rate of five years, the former policy being surrendered.

I again examined this gentleman on the 29th of April in the same year, the matter not having been sooner completed, when I found no change to report; and on the 11th of May another assurance company accepted his life for a large sum, on my former reports, at the same extra rate.

The next time I saw him was on the 3rd of June, 1861, when he appeared before me for examination for a further assurance, and then I could not discover the slightest alteration in the tongue after the most careful examination; I therefore reported as before, and the life was again accepted at the same extra rate. On the 30th of September another assurance was effected on his life by a different company on the former papers. About the end of the following month this gentleman was directed by the Dublin secretary of the first company which had assured his life, to wait on me with the

view of being examined for an assurance proposed by a third party, when he stated that he could not do so for a few days as he had accidentally bitten his tongue, and it was sore. I did not see him after this date, so that the remainder of his history I have learned from others.

It seems that, as the result of this bite, a small tubercle, about the size of a pea, formed on the edge of the tongue, beneath the mucous membrane, its situation being on a level with the molar teeth. For this he sought the advice of some of our eminent surgeons, who differed in opinion as to the necessity of an operation; the result being that he placed himself under the care of one of them who treated the disease with caustic applications. After some time, however, hemorrhage set in, necessitating an operation, which he survived only a few months, cancer having invaded the glands in the neck.

As I have already said, my object in recording this case is to call attention to the existence of, I believe, a hitherto undiscovered abnormal condition of the mucous membrane of the tongue and cheeks; to show the probability of its terminating in cancer; and, as a necessary conclusion, to point out that such a deviation from the natural state of these parts would render a life ineligible for assurance.

ART. III.—*On Certain Movements of the Throat and Chest in Respiratory Acts.* By EDWARD SMITH, M.D., LL.B., F.R.S., Assistant Physician to the Hospital for Consumption, Brompton, &c.

PROFESSIONAL attention has been recently called to the movements of the larynx by the demonstrations of Dr. Czermack, in the use of his effective modification of Avery's speculum; and an interest is now being felt in the subject beyond that which it has hitherto commanded. It is with a view of further extending this inquiry that I venture to publish the details of an investigation into the movements of the parts of the throat above the larynx which are consentaneous with chest movements in the performance of respiratory acts, which were prosecuted some time ago, and then laid aside from the pressure of other engagements, and from a desire—since proved to be futile—to obtain photographs of the parts *in situ*.

I cannot think that the subject has been as yet studied with the minuteness which it deserves, whether we regard its importance in relation to the mechanism of respiration in health, or the influence of affections of the throat, locally or in their reaction upon respiration, which occurs in disease; neither do I think that we can now make that full practical application of the observed facts which will be possible in a few years to come.

I purpose, in the following communication, to describe the motions of the throat, observed in myself and others, in two sets of respiratory acts—those which do not and those which do involve the closure of the larynx, and to add some observations upon a voluntary respiratory act, showing that the configuration of the chest may be so changed that nearly the full quantity of air may be admitted and emitted, with variation in the perpendicular diameter only.

1.—THE THROAT.

Movements which do not involve Closure of the Larynx.

ORDINARY AND FORCED RESPIRATION.

In *ordinary breathing* through the mouth, if we commence from a state of rest of the parts about the throat, the tongue sinks, and especially at its root, and the *velum palati* rises. A continuance of the act scarcely excites further movement in the velum, or varies the figure of the fauces; but the tendency thereto is a little greater with expiration than with inspiration. A state of true repose is not permitted so long as the act is continued through the mouth, notwithstanding the intervals between the inspirations; but the velum and tongue have the same posture in the interval as during the act. When the state of repose occurs, the tongue rises and the velum falls; and hence the contrary acts must occur when inspiration is again effected through the mouth; but the state of repose is neither common nor necessary during expiration, and must be carefully distinguished from that of expiration.

In *ordinary breathing* through the nose, from the closest inquiry which I could make, I believe the parts to be then in a state of rest, so far as that the velum is depressed, and the root of the tongue raised.

In *forced respiration* through the mouth the effects are much more pronounced. In both expiration and inspiration the posterior isthmus is elongated from above downward, by the ascent of the velum, and greatly contracted laterally, and particularly at the key

of the arch, by the drawing inwards of the roots of the posterior arches; and it is in the latter position that the greatest muscular effort seems to occur. In the raising of the velum the chief action appears to be at the root of the uvula; and that point, indeed, is manifestly the centre of all the movements connected with the fauces. It is very peculiar in direction during expiration. During inspiration the uvula is carried backwards and upwards, even so far as to be horizontal, and it is greatly tightened; whilst during expiration it is directed forwards, and is loose; but the velum is still tightened at the point of connexion with the uvula. It is, however, needful to observe that the tightening of the velum ceases at or near to the end of expiration, whilst at the same moment the fauces expand, and the velum falls downwards and forwards, and so far resembles a state of repose; but the latter state does not, in fact, occur during the act of expiration. A momentary rest occurs ordinarily after the inspiration, and before the expiration begins—and again after the expiration, before the inspiration is renewed; so that there is a frequent alternation of constriction and dilatation; but the state of repose is not due to either the expiration or the inspiration.

Hence it is proved, that not only is there violent muscular action in the throat during the forced efforts of respiration, but that there is a consent between them and the other inspiratory movements of the thorax; and particularly that during their continuance there is no opposing action on the part of the diaphragm and abdominal muscles.

I then inquired as to the channels by which we breathe in ordinary respiration, and found it a much more difficult inquiry than experience would have led me to expect. In this investigation I made use of the spirometer and mirror.

We do not ordinarily breathe by both the mouth and nose at the same time; but when the mouth is open the air enters chiefly, if not entirely, by that aperture. If a tube be held in the mouth it is just possible to breathe through it as well as through the nose at the same time, and without producing any nasal sound; but it would then be most unusual to breathe through the nose by persons of ordinary manners. It is, however, possible to hold a tube in the mouth, and yet breathe as entirely by the nostrils, as it is to breathe entirely through the tube; and the latter may be continued after having been once effected without any fear of air entering by the nose so long as the attention is given to it. In blowing through

the mouth with moderate force it would be impossible to expire also by the nose; and it is but barely possible to inspire forcibly through both nose and mouth at once.

It is quite possible to breathe either by the nose or mouth separately at will, or with the two alternately as well as with both at the same time. The alternate action is requisite in using certain spirometers and inhalers, and demands a little practice. In inspiration by the mouth and expiration by the nose, the tongue is first lowered, and the velum raised; and then those conditions are reversed; and in this latter action the anterior arch is closed by the back of the tongue. The communication from the pharynx to the mouth can be shut off whether the mouth be open or closed; but if it be open, an effort is required to raise the back of the tongue, and thus to meet the velum.

As it respects the closing of the nostrils from the pharynx, I remark that there is power to do so, as is proved by the following facts:—When the mouth is open we can expire even forcibly, and yet no air pass by the nose. When the mouth is shut we can distend the cheeks with air, and yet no air pass out by the nose. To open the nose it is then needful to make an effort, or to arrest the previous effort, and this is followed by a crack and a rush of air through the nose. There is also some change in the position of the velum when the posterior nares are thus opened to the pharynx.

The mode by which this is effected cannot be seen during the act; but I believe it to be by the movement of the velum, as in forced respiration by the mouth. Hence, anything preventing the action of the velum, or any want of integrity of it, or deficient elevation of the back of the tongue would render the isolation of either of the two orifices impossible. I have endeavoured to draw the tongue downwards, and backwards, and in various other ways, to ascertain if the falling backwards of the tongue in anesthesia could close up the fauces, and thus prevent respiration; but without being able to prove or disprove it, I believe it cannot entirely do so.

SINGING.

In singing the posture of the throat and tongue is much the same as in all forced respiratory efforts, but it differs with the pitch and register of the voice. In singing there are three registers of the voice, viz.:—1st, the chest tones; 2nd, the medium tones; and 3rd, the head tones.

In singing in the chest register—viz., up to *la* or *si*—the position of the throat is as in ordinary talking, the fauces being contracted, the velum raised and arched, the uvula pendant and thick, and the tongue depressed with recession of the posterior arch and thickening of its root. No posturing of the throat is necessary; and neither the pitch nor the quality is influenced by any motion of the uvula. In the medium register—as from *si* to *fa*—the same posture is found, except that the uvula now begins to be drawn up at its root, and the velum also rises with it.

It is in the head tones that posturing of the throat occurs; and in them it is considerable and forcible. All the parts in the fauces become tightened to the last degree; and so narrow are the fauces at the uvula that that little body seems to fill up the chink. The uvula exhibits remarkable changes in form and posture. At the very highest tones—viz., *sol*, octave above the line—it is so contracted as to be reduced to a narrow point. It is also drawn backwards and upwards from points in its length, descending from its root towards its free end, progressively, as the pitch rises, so that at the very highest notes it is perfectly horizontal. It is remarkable, that with all this tension the other parts of the fauces may be quite motionless, unless an inspiration should be made, and then they posture as in forcible inspiration.

In all the registers alike, the employment of a mirror shows that the breath passes out through the mouth alone, when the tone is clear and pure; but it passes partly by the nose when a nasal sound occurs. The sound, however, is not so limited; but in the chest tones is chiefly through the nose, in the head tones through the mouth, and in the medium through both. In the head tones the sound is cut off from the nose by the ascent of the velum, and the closure of the nares by a very low vibrating membrane. It is also worthy of remark, that closure of the nares anteriorly does not necessarily affect the quality of the tone in any register; and this expedient is a good test to the singer himself of the degree of purity of the tone. But in reference to the chest tones which pass through the nose naturally, it is difficult to avoid injury to them if the nose be closed anteriorly; and it is needful to raise the velum. The pitch of the note is produced in the larynx.

TALKING.

The posture of the throat in talking is that of ordinary respiration. In the open posture—as in saying “Ah!”—the velum is carried

further upwards and backwards, and then falls in the opposite direction when the talking has ceased; but it never falls so low as to lie upon the back of the tongue. Speaking in the three registers requires the same posturing of the throat as in singing in those registers. The nose vibrates, during talking in the chest and medium registers, but not with the head tones; and this is the same in singing in those registers. The sound may pass through the nose, and yet the current of the breath pass by the mouth, showing that it is due to vibrations of air in the nares, and not necessarily to the current of air passing through the larynx; but the vibrations are set in motion by that current.

The quantity of air emitted during talking or singing is small at each moment; for, although it is continuous it is but little, if any, greater per minute than occurs with the intermittent efforts of ordinary respiration. When singing in the *bravura* style there is an increased expiration of only 40 cubic inches per minute.

YAWNING.

In yawning, the posture of the throat is the same as in the most forced respiration, with two exceptions, viz., that in the expiration the velum is raised higher than in inspiration, even above the level of the bony palate, and the tongue exhibits a remarkable ridge at its middle part. The order of the actions is as follows:—

1. There is a very deep, the utmost complemental, inspiration, preceded by a peculiar sensation at the precordium, and inducing, or attended by, the wide opening of the jaws. 2. The breath is held—not by closure of the larynx, I believe—but by the muscular efforts of the diaphragm or abdominal muscles; and the jaws are widened to their utmost degree. 3. Then follows a long expiration, during which the mouth naturally remains open; but by great effort it may be closed, and then the air enters the Eustachian tube, and the gaping is less complete. During the inspiration and the holding of the breath the larynx descends greatly with the lower jaw.

SNORING.

This act may occur with the air passing through the nose alone, through the mouth alone, or through both at the same time. When through the nose alone it is very difficult, and then there is some noise produced by movement of the nasal cartilages which cannot be often repeated, and by a dull rolling noise about the velum and posterior nares. This can scarcely be ordinary snoring. The act

is the most easy and natural when the mouth is open, and the breath passes through the mouth alone. There is then a rattling of the velum against the back of the tongue, except when the tongue is held down at its root by voluntary effort. When the air passes through both orifices the snoring is not so easy; but it, doubtless, does so ordinarily, and perhaps with the deepest snore. The mouth is less open than in the former condition; but I believe the rattle to be still due to the tongue and velum. If the mouth be kept widely open the rattle does not occur; or if it do occur it is very indistinct and uncertain, because the back of the tongue is held at too great a distance from the velum.

Those acts which involve a Closure of the Larynx.

It is possible and easy so to fix the throat that no air can pass outwardly either through the nose or mouth, and yet the communication by the mouth shall be free by the ascent of the velum and uvula, as it is in singing or talking in the chest register. This is not dependent upon any position of the jaws or cheeks, for the former may be moved at will, and the latter be distended and collapsed repeatedly, and yet no air shall have left the lungs. This is also observed in the act of coughing, and in various efforts, as the carrying of weights, in defecation, and other expulsatory acts. When the obstacle is overcome, there is a crack and a rush of air. During its continuance the precordium is tense, and the diaphragm fixed, and the larynx is also drawn up considerably, but yet to a less extent than occurs with swallowing.

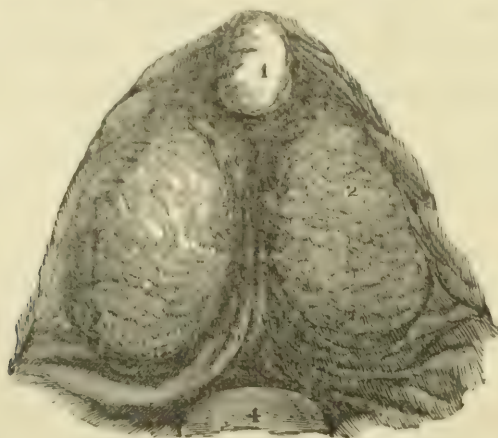
The point of interest is to determine where the obstruction is placed. It must be, judging from the sensation, either in the larynx or about the diaphragm; and, on carefully inquiring into it, I believe that it is not from any arrest of expiratory action in the abdominal and other expiratory muscles, but in the larynx, for the following reasons:—

1. The expiratory muscles appear to be acting forcibly, both from the sensation internally, and from that communicated to the hand externally, and from the change in the figure of the abdomen.

2. When the obstruction is overcome, there is a sensation in the larynx besides that of the sudden passage of a volume of air. This is also confirmed by distending the cheeks, first with the communication open, and then without it. When the air passes through the lips there is a difference in the sensation in the throat in the two experiments; and in only one does it indicate that an obstacle has been overcome.

But, admitting that it is in the larynx, does it follow that it is necessarily at the glottis? The sensation, when the obstacle is overcome, seems to be higher up and nearer to the epiglottis; and in addition, there is the ascent of the larynx; both of which circumstances point to the superior aperture of the larynx as the seat of obstruction, and indicate that it may be due to the elevation of the larynx underneath the epiglottis. Proof of this is difficult to a self-experimenter; but it could be obtained by means of a tube of half an inch in diameter being passed down to, and, if possible, into the larynx, and noticing at what point the obstacle is removed. It is however easy enough, when the throat of another person is examined.

Let a person be selected in whom, by practice or absence of hyperesthesia, it is possible to expose the free edge of the epiglottis with ease; and place him before a window, in good sunlight, at a height convenient to the stature of the observer. Let the mouth, and particularly the lips, be completely expanded, so as to render the opening of the mouth of an egg-shaped form, but with the short axis somewhat longer; and direct the patient to inspire by the mouth, so as to lift up the velum, and to continue to respire at his ease during the inquiry. Place the broad spatula carefully upon the tongue, as far back as it can be borne, and by the aid of the long handle, steadily and firmly depress it, and at the same time draw the root of the tongue somewhat forward. Having previously instructed him to hold his breath, and make a strong expulsive effort at the same time, direct him to do so now that the epiglottis and the surrounding parts are exposed to view; and if he have understood what is required, and have done it, the following changes will be observed during the act:—



Drawing, showing the position of the parts of the Fauces and Pharynx in the first part of coughing and other expulsive acts.

1. The larynx is carried upwards to the extent of perhaps half an inch. 2. The free edge of the epiglottis becomes somewhat curved, and is carried backwards towards the posterior wall of the pharynx. 3. The whole circumference of the pharynx becomes contracted and corrugated, so as to reduce the circular aperture below; but the lateral walls particularly project, and diminish the area in that direction, and the posterior wall of the pharynx is brought forward. 4. With these acts the posterior aspect of the epiglottis is brought into approximation to the posterior wall of the pharynx, and the lateral edges are near to the lateral bulging of the pharyngeal muscles. When the expulsatory act ceases, all the parts return to their former state, and the cavity instantaneously enlarges; and the contraction and enlargement may be repeated alternately, at pleasure, for several times, in a suitable subject.

Hence, in this act it will be readily seen that the apertures of both the larynx and œsophagus are temporarily closed; and it may be affirmed that such is the condition in all expulsatory acts at the period preceding the emission of air.

Such, moreover, is supported by two well known facts. In cases of destruction of the free edge of the epiglottis such acts as coughing can be only imperfectly performed, for the compression of the chest space is never perfect; and the crack which accompanies the emission of air in ordinary coughing does not occur, or it is exceedingly feeble. Hence, in such cases, the free edge of the epiglottis could not be fully applied to the pharynx, and the full benefit of the expulsatory act of coughing, and perhaps of other expulsatory acts, is not obtained. Again, when, after the application of the strong solution of nitrate of silver to the lower part of the pharynx, there is apnea, the strangulation passes away very frequently with the eructation of wind from the œsophagus at the same instant, which implies that both the larynx and the œsophagus were closed together and reopened together.

Hence I cannot doubt for a moment that a seat of the occlusion, in expulsatory acts, is at the bottom of the pharynx, and that the muscles of the pharynx act the part of constrictors, and the free edge of the epiglottis that of a valve; but it does not follow that there is not a consentaneous act of a similar import proceeding in the larynx. Dr. Czermack has informed me that, in the act in question, the vocal chords are drawn together, the arytenoid cartilages approximate closely, and the epiglottis is carried backwards, and closely applied to the anterior aspect of the cartilages, and thus closes the

chink which otherwise exists between them. But it is evident that in the extreme effort the interior action of the larynx can be no longer observed, since the apposition of the epiglottis to the posterior wall of the pharynx cuts off the admission of light.

COUGHING.

The position of the throat and tongue in coughing is the same as in forced respiration; but the posterior arch is thinner than occurs with singing. The peculiarity of the act is that it alternately discharges and renews this position. The following is the sequence of the phenomena attending the act:—

1. The posture, in the throat, of forced respiration is induced.
2. There is closure of the larynx, most probably at its upper termination, with ascent of that organ, fixing of the diaphragm, and the exertion of great expiratory force; and, as the exit of air is prevented, the air contained in the lungs must be compressed and dislocated. The fauces also, during this part of the act, become more compressed laterally.

3. Cessation of the obstruction, followed instantly by violent spasmodic expulsion of air through the mouth only, relaxation at the precordia, and sudden descent of the larynx.

It is not needful that there should be an inspiration before every cough; and when there is not, the air which is discharged must be the reserve air; and hence the volume of the lungs and the distension of the air-cells will be less than in a state of rest, as occurs in such spasmodic acts as those of whooping-cough.

2.—CONDITIONS ATTENDING A CERTAIN VOLUNTARY CHEST MOVEMENT.

I find that with the larynx closed, and without any air entering the lungs, I can, by the violent action of the thoracic muscles, expand the thorax antero-posteriorly and laterally to the utmost degree, or nearly so, to which it can be expanded in those directions with the admission of air; and that when it is so expanded I can admit the same quantity of tidal and complemental air, or nearly so, which could have been admitted in the fullest inspiration without this postural effort. I cannot determine the perpendicular measurement, but I presume that it is lessened. The whole thorax is elevated 1 inch, and there is a decrease of $\frac{3}{4}$ of an inch in the distance from the navel to the upper extremity of the sternum. The figure of the chest with the postural effort, without air, is the same

as with ordinary deep inspirations, but there is a greater tucking inwards at the precordium. During the effort the whole body appears to be on the strain, and particularly the muscles of the neck posteriorly and laterally, of the jaw, and of the ribs; and those of the loins are stiff and sore after the exertion. The arms feel as if they were fixed; but it is not so necessarily, for they may be moved about at will. When the posture has been effected, and it is desired to admit the air, there is a peculiar and loud clack in the throat; but this does not take place on the instant, with the will, and seems to imply that the voluntary closure of the throat in preventing inspiration, cannot, on the instant, be removed. The tongue has no essential part in the fixing of the throat referred to, to prevent inspiration, for it may be at rest or extended, and yet it never affects the closing or the opening of the larynx.

The following are the admeasurements before and after the admission of air, the quantity inspired at each ordinary inspiration being 35 cubic inches, and the movement across the seventh rib being an increase of $\frac{1}{8}$ inch.

1. *With the postural effort commencing at the normal point of expiration:—*

Across the seventh rib there is an increase in the circumference to the utmost degree of expansion, without air, of 12-10ths of an inch, and a further increase of 2-10ths of an inch on the admission of air to the utmost degree. Across the nipple the increase without air is 7-10ths of an inch, with a further increase with air of 6-10ths of an inch, and across the second intercostal space the first-mentioned increase is 9-10ths of an inch, and no more with air admitted.

In reference to the abdomen there is, just below the ribs, a decrease of 6-10ths of an inch, without air, and then an increase of $2\frac{9}{10}$ inches with air admitted. Across the navel the decrease without air is 1 inch, and then the increase with air is 2 inches.

2. *With the postural effort commencing from the point of deepest expiration:—*

Across the seventh rib the increase without air is $2\frac{3}{10}$ inches, and another 1 inch with the admission of air. Across the nipple the former is 7-10ths of an inch, and the latter 4-10ths of an inch, whilst across the second space the former is 9-10ths of an inch, and the latter 1-10th of an inch.

In the abdomen, just below the ribs, there is a decrease of 3-10ths of an inch without air, and then an increase of $3\frac{3}{10}$ inches with

admitted air, and across the navel a decrease of 8-10ths of an inch without air, and an increase of 2 inches with air.

The quantity of air admitted without increasing the size of the thorax beyond that of the fixed posture under discussion is 180 cub. inches, and that to the utmost capacity of the chest is 210 cub. in., the starting point being that of ordinary expiration. When, however, the effort is made from the point of most complete expiration, the quantity of air admitted is 230 cub. inches, without increasing the size, and 260 cub. inches when expanded to the utmost degree.

The admeasurement and quantities vary somewhat with the fatigue, for it is impossible to maintain for a long time, or to repeat often, the exertion without fatigue. It is also imperative to have the movements most perfectly under the control of the will.

Thus in the postural efforts a very great increase in the admeasurement of the chest is effected, without the admission of air, and a slight further increase on the admission of air; whilst the circumference of the abdomen is lessened without the admission of air, and greatly increased afterwards on its admission. But as much as 80 cub. inches of air may be admitted into the lungs before the circumference of any part of the abdomen enlarges. When the starting point is that of complete expiration the chest admeasurements are increased, whilst those of the abdomen are decreased, before air is admitted, and a proportionate increase in the size of the abdomen results after air has been admitted. The direction of the enlargement of the chest by the inspired air is downwards.

It is thus evident that complete inspiration may be effected by expansion of the lungs in one direction only, but with regard to expiration that is either impossible or very difficult under the same circumstances. Whilst inspiration may be thus as quickly and as surely effected as under ordinary conditions, the expirations must be made very slowly, and unless a much longer period is allowed for its performance than under ordinary circumstances, the whole of the complemental and tidal, and part of the reserve air, is not emitted, and, as a consequence, less air is admitted during the following inspiration. Hence I think it is proved that inspiration may be completely effected by the diaphragm alone, and that the attendant expansion of the thorax is not essential, provided it be expanded at the period of inspiration, but that expiration cannot be effectually performed by the abdominal muscles alone, so long as the thorax remains expanded; and hence that the respiration would be seriously

impeded, if from any cause the thorax remained expanded beyond the normal degree.

I do not know if the capacity of the chest is varied in either direction by this postural effort, since it is impossible to determine on myself the perpendicular depth of the chest. There is no doubt, I believe, that the capacity of the chest may be enlarged to a certain extent, without the admission of air, by the expansion of the contained air; and the conditions under which the air is placed during this effort, are very favourable to its expansion.

There must be a dislocation of the air within the lungs, so as to permit of the change of figure of the lungs; and hence the air-cells in parts of the lungs must be at the same moment in two opposite conditions, viz., those at the base containing as little air as possible, whilst those centrally, laterally, and superiorly situate must be distended either to their utmost extent, or to utmost capacity of the chest at those points. Hence it is proved that an empty condition, or nearly so, of the air cells, is not necessarily due to the pressure of the thoracic walls, as a whole, and that, in fact, partial collapse on a large scale may occur; and, in like manner, that distension of a great part of the air cells may occur without the entrance of air from without, and simply by dislocation of that within the lungs.

It is also clear that whilst the air cells of the greater part of the thorax are so distended that they cannot permit the entrance of any further quantity of air, those at the base are capable of receiving 260 cub. inches—or, in fact, the whole quantity which the lungs can inspire from the point of most complete expiration; and hence that the abolition of a large part of the air cells at the apex could not prevent the introduction into the lung of the full volume of air required, provided that the cells at the base could be first sufficiently emptied, and that the requisite amount of muscular power and space in the abdomen could be obtained.

It may also be inferred, that if it be possible to keep the air cells of so large a part of the lungs permanently distended beyond the natural degree, there would be a more limited interchange of gases; and it would be of interest to determine the effect which this would have upon the chemical changes and the circulation of blood in the lungs. Hence, in states of disease in which the mobility of the chest is lessened it is a desideratum to determine whether that results from the retention of an unusual quantity of air, or simply from an absolutely lessened capacity to contain air.

Such are the results of this inquiry on the two subjects indicated; and whilst I must leave the practical application of them to the physician, in his investigations of chest and throat disease, and to the physiologist in studying the mechanism of respiration, I would conclude by directing attention to the great diversity which exists on these two subjects in the two most widely-spread classes of chest disease—bronchitis and phthisis.

In old bronchitis we find the cavity of the fauces large, the mucous membrane more or less suffused and thickened, and the movements of the throat materially lessened; whilst in phthisis there is commonly a narrowed state of the fauces, attenuation of the lining membrane, and particularly of the arches of the palate, with almost obliteration of the anterior arch, and with perfect and free movement of the throat.

In old bronchitis the chest is fixed at its upper and lateral parts, and the abdomen tucked in, *as in the position of the chest which has been discussed*, rendering the expiration of air extremely difficult, and diminishing greatly the interchange of air. This fixedness of the thoracic walls often extends even to the lowest ribs, leaving the respiration to be performed almost entirely in the direction of the perpendicular axis of the chest. In phthisis there is no fixing of the chest by violent muscular effort; and the cause of the respiration being carried on chiefly at the base is due simply to the closure of the lungs at their upper part.

Hence it is impossible not to notice how completely the cause of the dyspnea differs in the two conditions, how greatly is the respiratory act lessened in bronchitis, and how much the diminution is due to an abnormal action of the inspiratory chest muscles, whereby the collapse of the chest is prevented during expiration, and the expiration greatly impeded—a condition evidently greatly connected with cerebro-spinal action, and to be treated on that indication much more than has hitherto been practised.

ART. IV.—*Removal of Superior Maxillary Bone, for Malignant Disease.* By JOHN K. BARTON, M.D., T.C.D., F.R.C.S.I., Surgeon to the Adelaide Hospital, &c.

WHEN a case of advanced malignant disease is presented to us, in which, from the implication of the neighbouring glands, and other

symptoms of a general infection of the system, it is quite evident operation cannot avail, our duty, although a painful, is a plain one, viz:—to inform the patient of the helplessness of our art to do more than merely palliate the sufferings, caused by a disease which will certainly prove fatal, and which sufferings would only be aggravated by an operation which could not remove the disease. When, however, the case presented to us is one in which the disease is strictly local, and yet is of such a malignant character as to leave us no hope of its non-recurrence after removal, we are placed in a much more trying and difficult position; the questions we have to decide are: will an operation prolong life? and if so, for how long?

The patient anxiously demands to know, can we save him from his terrible disease?—and if we cannot do this, for how long can the fatal issue of it be postponed? and he is willing to undergo any operation, by means of which we will engage to prolong, if not to save, his life. In the present state of our knowledge we cannot answer these questions so accurately as we or our patients could desire. Every circumstance of the individual case before us must be separately weighed and given full consideration to:—1st. The *form* of the disease, whether it is medullary, scirrhus, melanoid, or epithelial. 2nd. The situation and relations of the disease. 3rd. The age, general health, and family history of the patient; before we can even give an approximate answer to the question, how long will the return of the disease be prevented by operation? Now, while each case must undoubtedly be tried and decided very much upon its own merits, yet, if I may judge from my own feelings, while considering the propriety of operating in the case I am about to relate, the surgeon will be very glad to know of a case in point; in fact, when the question to be decided is so nice a one, as the probability of the return of the disease in any particular case, the record of every similar case is of great value.

The following case was believed by all who examined it, to be one of medullary cancer, growing from the alveolar border of the upper jaw, upwards into the antrum, and downwards into the mouth. It appeared to be limited to the posterior part of the left superior maxillary bone, and there was no enlargement of glands. What finally made me determine upon operating was:—That the patient, after being put in possession, as fully as I could inform him, of the nature of his disease, and the usual time when such disease returned after removal, took time to consider, and consult his

friends, and then made up his mind to have it performed with as little delay as possible.

The results so far, viz. :—no return of the disease, either in the mouth or elsewhere, between eight or nine months after operation must be considered very favourable.

CASE.—Robert Hawthorne, 49 years of age, a stout strong looking man, a small farmer in the North of Ireland, came up to the Adelaide Hospital, upon the 2nd of October, 1861, and was admitted under my care. The left cheek was slightly protruded, as if a body about the size of a walnut was being held between the back upper teeth and the cheek; to the feel this tumour was soft and elastic. When the mouth was held open, a dark purplish looking fungus was seen to occupy the place of the three last teeth in the upper jaw, projecting about an inch into the mouth, and, where it came in contact with the teeth in the lower jaw, presenting a greyish sloughy appearance. The finger passed well into the mouth could be carried round this tumour; posteriorly it did not appear to extend further than the socket of the last molar; internally it was very well defined from the palate, while externally, it seemed to pass into the mucous membrane of the cheek. The tumour seen externally was not caused by this growth seen in the mouth, for it was higher up than the tumour in the mouth, it seemed to be caused by a growth in the lower part of the antrum. An offensive bloody discharge was continually running from the mouth; the growth was the seat of constant lancinating pain.

The history of the case was as follows:—He had enjoyed uninterrupted good health all his life, until about nine weeks before his admission to the Hospital, when he began to suffer severe pain in his face, and left side of his head. About a week after he was attacked by this pain, which was growing daily more severe, he noticed a red fleshy looking body projecting slightly from the socket of the second molar tooth in the left upper jaw, which had been extracted many years before; this increased rapidly, and very soon he found that the tooth behind it was loose, and it soon came out. He was now seen by Dr. Malcomson, of Banbridge, who, recognizing the malignant nature of the growth, advised him to come to Dublin, in order that if it was advisable it might be removed at once. Soon after this he was seen by Dr. Patton, of Tanderagee, who gave him the same opinion he had just received from Dr. Malcomson, but before sending him up to town, he, upon

one or two occasions, freely cauterized the growth, which was followed by very considerable bleeding, and after which it continued to increase as rapidly as before; he consequently lost no further time in coming up to Dublin.

Upon making inquiry whether any of his relatives had died of cancer, he said his aunt had, and his sister very lately died of cancer of the breast.

The poor man was most urgent to have something done, and, immediately upon his admission, demanded whether his disease could be removed or not. Declining to give him any answer for a week, I carefully examined the case every day; it was in a few days apparent that the growth was increasing in size, at the same time it was clearly made out, that it was circumscribed as yet, and that there was no glandular contamination. He was put upon the tincture of perchloride of iron, and, in about a week after his admission, my colleagues having all examined the case, and several other experienced surgeons, all of whom agreed that the disease was malignant, and rapidly growing, I told the patient that his disease was a fatal one, that if nothing was done it would, most likely, continue rapidly to increase, that if removed, it would return, perhaps, very soon, but, possibly, not for many months, or even two or three years. He then demanded to know was the operation itself likely to prove fatal; I said it was not. After considering what I had said he determined to return to his home, see his friends, tell them all I had said, and if he determined upon submitting to the operation, come back in a week. When he left the hospital I did not expect to see him any more, and, I may confess I was not sorry to escape any interference with such a growth; notwithstanding, I felt that should he return, demanding the operation, I would be bound to yield to his wishes.

At the expiration of a week he returned, strengthened, apparently, by his deliberations with his friends in his desire to have the operation performed. His urgent request now was, to have it done quickly. I determined to remove the entire left superior maxillary bone, as the only proceeding likely to accomplish the complete removal of the disease. Upon the 19th of October he was brought into the operating theatre, and placed in a strong chair with a rest for his head, which, as soon as he was seated, was laid back against a firm table, so as to bring him nearly into a recumbent position. Chloroform was then administered; as soon as he was fairly under its influence, he was brought into a

more upright position, and I immediately passed a strong sharp-pointed bistoury through the cheek near the angle of the jaw, and drew it forwards to the mouth, which was thus laid open. A second incision, at right angles to the first was then made, parallel to the descending ramus of the lower jaw, and behind the tumour; the flap thus formed was then quickly dissected up, the facial artery, and a few other twigs being secured. The diseased mass was now exposed to view, it was soft, almost gelatinous in appearance, and involved the whole posterior part of the bone. A tooth having been extracted, the palate was divided with a strong cutting bone forceps, then the nasal process of the superior maxillary bone was divided with the same instrument, and then the malar bone, where it joins the superior maxillary, at the outside of the orbit, was nipped across, an inch of the floor of the orbit being included between these last divisions of the bone. The bone, including the diseased mass, was now grasped in a lion forceps, it immediately divided into two parts, the anterior first coming away, and exposing the interior of the antrum to view, partially filled by the malignant growth. A second application of the forceps brought away the posterior part of the bone, with the diseased mass. A careful examination was now made to ascertain if any of the malignant growth remained, every structure which appeared like it was freely removed, and, finally, the actual cautery was applied to the bottom of the wound, after which dossils of lint were carefully packed in, and the ligatures being brought out near the angle of the jaw, the flap was replaced and held accurately in position by three or four hare-lip pins, after which the patient was removed to bed. The chloroform was not kept up after the first incision, it saved him, however, the pain of the cutting of the flap, perhaps, the most painful part of the operation.

Upon examining the parts removed, after the operation, we found the diseased structure firmly adherent to the alveolar border of the jaw, but free and unattached in the cavity of the antrum; it had a gelatinous appearance, streaked with red vessels. I examined it microscopically, and could not satisfy myself, that the appearances presented were the same as those of medullary cancer, they looked more like colloid. It was examined, however, by two others, better qualified than I am to give an opinion on this point, only one of whom declared the caudate cells to be distinctly visible.

The wound united remarkably well. Upon the fifth day, when the last pin was removed, the whole horizontal incision, from the

mouth to where the vertical incision met it, near the angle of the jaw, was firmly and evenly united. The patient partook freely of all kinds of fluid nutriment, the mouth being daily syringed with a solution of chloride of lime in warm water. In about ten days the pledgets of lint began to come away by the mouth, and by the end of three weeks all had been removed, either by the external wound, or by the mouth. The cheek looked sunken, and the articulation was imperfect, but the ball of the eye remained well in its place. I was, of course, daily looking to see if there was any appearance of the disease, but none presented itself during his recovery in the hospital, which he finally left about Christmas, since which time I have repeatedly heard of him, each account bringing the gratifying intelligence that there was no return of the disease, and that his general health was much improved. In April Dr. Malcomson kindly examined him for me, and wrote to me as follows:—"I saw Robert Hawthorne a few days since, there was a little swelling of the upper lip, extending to the cheek, in the direction of the cut; I did not consider it of any importance, and was probably caused by the east wind which was then very cold; it had no appearance of a return of the disease whatever."

And again upon the 16th of June, Dr. Malcomson writes:—"I have examined Hawthorne particularly; he is doing very well, and much improved in health; there is not the slightest appearance of the disease returning; the tumefaction of the cheek is greatly gone."

Thus we have the patient eight months after the operation, quite free from his disease; his general health being better than before. This must be considered a favourable result, even were the disease to return immediately after this—and one which vindicates the propriety of the operation.

There may, perhaps, be a doubt felt by some, on account of the unsatisfactory result of the microscopic examination, and from there being no return of the disease for so long, whether it was malignant at all or not. I have, myself, no doubt whatever of its malignant character, nor had any of the many experienced surgeons who examined the case with me before the operation. Dr. Geoghegan, than whom no surgeon is more familiar with all forms of malignant disease, seeing it as he does at the Incurable Hospital, pronounced it cancerous almost before he looked at it—the smell alone being to him proof positive of its nature.

The chief interest of the case seems to me to be, that it proves that the superior maxillary bone may be removed with advantage

when the seat of fungoid or medullary cancer, even when the disease is rapidly growing; but before it has extended beyond the bone. I hope no one will imagine I am advocating an indiscriminate removal of malignant growths, particularly when affecting such a part as the upper jaw: far from it, I am fully alive to the necessity of refusing even the most earnest entreaties of a patient, when we have reason to think the disease has infected the glands, or other parts which we cannot remove, if we would save our patients from needless suffering, and ourselves and them from disappointment. But I maintain that the rapidity of growth of a tumour, provided it is still local, is a reason for, and not a reason against removal. For if left to itself it will quickly involve the neighbouring tissues, and by the increasing cachexia, produce death; whereas, if removed, as the case I have related shows, not only may the disease not return for many months, but, the general health be much improved. No invariable rule can be made for such cases; nor does our case prove more than that the operation *may be* performed with advantage for this the worst form of malignant disease; but by adding another to those already recorded, it will influence an opinion formed upon a consideration of all. It also shows that the locality of the disease, the upper jaw, makes no exception to the truth of Mr. Paget's observations upon the removal of medullary cancer in general. He says,^a "the hope of finally curing the disease by operation should not be entertained. Such an event may happen; but the chance of it is not greater than that of the disease being spontaneously cured or arrested; and the chance of any of these things is too slight to be weighed in the decision of any single case. The question in each case is, whether life may be so prolonged, or its sufferings so diminished as to justify the risk of the operation. In general, I think, the answer must be affirmative wherever the disease can be wholly removed, and the cachexia is not so manifest as to make it most probable that the operation will of itself prove fatal."

The sequel of this case is yet to be told, whether the very faint hope of the disease never returning should be realised, or, should it return, which I look upon as almost certain, where and when.

Years may, I hope will, elapse before these can be answered, and the case completed. I hope by the kind aid of Dr. Malcomson, of Banbridge, near whom the man resides, to watch the case carefully, and record its termination.

^a Surgical Pathology, Vol. ii., p. 209.

ART. V.—*Phlorydzine*, and its Uses. By DR. DE RICCI.

MANY years ago, when quinine and its salts still retained their high original price, I instituted a series of experiments on different substances, both organic and inorganic, for the purpose of testing their respective value as antiperiodics in the treatment of fevers and other diseases of an intermittent character.

Anxious, if possible, to become independent of foreign remedies—a supply of which, in case of a war, might become precarious—I specially devoted myself to the investigation of those which would easily be obtained at home—and, among others, to salicine and phlorydzine, which at that time were attracting much attention. After a long series of oft-repeated experiments, I came to the conclusion that they were both vastly inferior to quinine in their antiperiodic qualities; and having assured myself that we possessed in arsenic a remedy even more powerful than quinine, while it acted also as a prophylactic against paludal infection, I concluded my investigation; but having, as I thought, observed some peculiarities in the action of phlorydzine different from that of other bitter principles, I still continued to employ it from time to time in such cases as seemed to me best fitted for its administration, and according as I could obtain supplies of it, watching its effects and accumulating evidence as to its value in the treatment of disease. Owing to different circumstances my researches were often interrupted, but I constantly resumed them whenever the opportunity offered; and during the last two years I have been able to carry out an uninterrupted series of them, which, added to my past experience, enable me to lay a satisfactory digest of the matter before my professional brethren.

Phlorydzine is a neutral principle which exists in considerable quantities in the bark of the root of the apple, plum, and cherry tree—also, I believe, in some others; but principally in the root of the apple tree, from which source we are mainly supplied. Phlorydzine, as at present in the market, is in the form of a powder of a dirty white colour, consisting of broken up silky needles, in appearance not unlike quinine which has not been well bleached. When rubbed between the fingers it has a soft velvety feel, very like that of French chalk; but if the substance be crystalized by the slow cooling of a dilute solution, previously treated with freshly prepared animal charcoal, it will then be obtained perfectly white,

and in the form of long, flat, brilliant, silky needles.^a Its taste is peculiar; it is very bitter at first, but ends by leaving a somewhat sweetish taste, with a flavour of apples, on the tongue.

This substance is represented by the chemical formula $C_{21}H_{11}O_8 + 4\Lambda\gamma$; it contains no nitrogen; thus differing from quinine, and resembling more its congener salicine, the formula of which is $C_{21}H_{12}O_9 + 2\Lambda\gamma$. Like salicine, it does not combine with acids to form salts; it is very soluble in alcohol, ether, or boiling water; but requires 1,000 parts of cold water for its solution. In its behaviour with reagents, however, it differs totally from either quinine or salicine; and its reaction in the presence of ammonia is sufficient to distinguish it from any other known product. If over a vessel containing water of ammonia is placed a capsule containing a thin layer of phlorydzine, and the whole is then covered with a bell-glass, so as to allow free access of air, the contents of the capsule will, in a short time, be converted into a gummy substance of a black colour, very soluble in cold water, which it colours of a beautiful violet blue, more or less intense according to the quantity employed. This substance, according to Sir Robert Kane, would seem to consist of phlorydzine combined with five atoms of oxygen and one of ammonia; its formula would consequently be $C_{21}H_{14}O_{13} + \Lambda\gamma$; it is not, however, a salt of ammonia, because the alkalies dissolve it without alteration. This substance, to which has been given the name of phlorydzein, is, as I said, extremely soluble in cold water, while phlorydzine, is very insoluble. Like phlorydzine, it is intensely bitter; its colouring properties are so great that one grain is sufficient to tinge deeply with blue a quart of water, to which it imparts not only the colour but the power of dissolving a much greater quantity of phlorydzine; and I have availed myself of this property when prescribing it in solution.

The cases in which I have employed phlorydzine with most success have been those forms of atonic dyspepsia, occurring in delicate females, to whom it was impossible to administer either bark, quinine, or salicine in any shape, without bringing on serious nervous excitement. I have also found it extremely well adapted for the treatment of young children of delicate constitutional habit, or when recovering from whooping cough, infantine fever, or any other disease. I have given it in these cases combined with syrup of phosphate of iron and manganese, and with syrup of iodide of

^a See Stass in *Annales de Chimie et de Physique*, Vol. lxi.

iron. The doses I have been in the habit of employing are five grains, three or four times a day, for adults, and proportionately smaller ones for young children.

I recommend a trial of this remedy in every adult case where quinine is not easily tolerated, as also in every case where young children require a tonic treatment either in consequence of constitutional debility, or from the debilitating effects of some previous illness; it is much more easily taken than either bark, quinine, or salicine, the bitter being of an agreeable kind, and changing, as I said above, into a sweetish taste, with the flavour of apples. I have never known it to disagree, even in large doses of 10 grains three or four times a day; and I have, in very many instances, found it of great use where other tonic substances could not be taken.

In prescribing phlorydzine it must be borne in mind that it is almost insoluble in cold water; but the addition of a very small quantity of ammonia instantly dissolves it; thus, by adding to an eight ounce mixture, containing a drachm of phlorydzine, a few drachms of aromatic spirit of ammonia, the fluid, which previously was milky, becomes perfectly clear; and the addition of the aromatic spirit rather improves the mixture than otherwise.

If a small quantity of phlorydzein be previously added to the water its solving power is increased, and the mixture will be of a beautiful blue colour, but it will not dissolve as much phlorydzine as when aromatic spirit of ammonia is employed.

I could subjoin several cases from my notes where the effects of phlorydzine have been manifestly favourable; but I do not wish to tire the attention of the reader, and shall content myself with giving the details of one which came under my notice last summer. It was an unmistakable case of chlorosis occurring in a young lady of a decidedly strumous constitution, well characterised by the clear blue eyes, broad square under jaw, transparent complexion, and decided auburn hair. Her mother informed me that she had been ill for about 18 months, and that during that period many remedies and many doctors had been tried, but unavailingly, as her daughter could not take iron in any shape, and that was the drug which had been invariably prescribed. I at once took the opportunity of telling her how injurious it was to the patient, and how unfair towards the medical man to be so constantly changing her physician, and gave her to understand, in very determined, still most courteous language, that I would much rather have nothing to do with the case if she did not intend to give me fairer play than she had given to the

other doctors. I suppose I rather astonished the elder lady, who had not been in the habit of hearing such decided language, and which to her ears sounded somewhat almost like impertinence; she, however, agreed to leave her daughter in my hands for at least four months. Taking for granted that there was either some idiosyncrasy against the use of iron in the case, or that her nervous system was, from disease and weakness, unable to bear it at the time, I commenced by prescribing grain doses of quinine, in wine, three times a day, requesting her to come again in a few days to inform me of how it agreed. She returned on the second day; she had then taken four doses of quinine. She told me it had affected her in a very strange manner; shortly after each dose she had been attacked by the most unpleasant feelings in her head; it was not pain she felt; it was rather a strained, tightened feeling inside her head, especially at the back of her eyes; she did not complain of noises in the ears, but every sound seemed much louder than in reality; and her own voice, when speaking, reverberated and re-echoed through her brain in the most distressing manner. This state of affairs generally commenced about half an hour after taking the quinine, persisted for about two hours, and was followed by considerable lassitude. I at once stopped the use of quinine, and prescribed two-grain doses of salicine in infusion of orange peel, with aromatic spirit of ammonia and chloric ether. In three days the patient returned, giving a somewhat better account of herself; but the effect of the salicine had been unsatisfactory; it had acted in a similar way to the quinine, only in a lesser degree. Her appetite was, however, improved, and she felt less languid, so I determined to persevere with tonics; and thinking this was a favourable case for giving a trial to phlorydzine, I prescribed five grains of it in half a wine-glass of sherry, three times a day. I did not see the patient for a week—when she came to tell me that the medicine *agreed quite well*, that her appetite was very much improved, that she had lost much of her lassitude, and that on the whole she felt considerably better. I desired her to persevere, and to return in another week. Before the end of that time, however, she walked into my study one day to tell me that she felt a most uncomfortable sensation of weight in her stomach every day after dinner; that her appetite was greatly improved; but that after eating she always felt uneasy, and especially after dinner, when she always felt as if she had swallowed a lump of lead; but that she was quite free from any unpleasantness in her head. I desired her to continue the

phlorydzine; and, in addition, to take, after her dinner, 10 grains of pepsine sprinkled between two small and thin slices of bread and butter. I saw no more of my patient for a fortnight; at the end of that time she again made her appearance in my study; she looked brighter and more cheerful than usual; she told me that she had quite lost the unpleasant feeling in the stomach after taking the pepsine, which she had now dropped for the last four days without any inconvenience; and that the phlorydzine was agreeing well with her. I thought it now high time to begin the introduction of a little iron into her system, and I gave her the citrate of iron and strychnia, in grain doses, three times a day. This agreed perfectly. After a short time I ordered her to the sea side for change of air; and had the satisfaction of seeing her return to town in perfect health.

In this case it is evident that the intolerance of the iron was not due to any constitutional idiosyncrasy, but to an enfeebled condition of the gastro-intestinal tract; this was to be corrected and removed by such remedies as increased its tone and vigour. Quinine was tried, but she could not bear it; then salicine was tried, but also unsuccessfully; against these substances she evidently had an idiosyncrasy. Phlorydzine, on the contrary, was well borne, and perfectly succeeded in carrying out my views. I could add several cases more, especially among young children, where phlorydzine fulfilled my purposes to perfection, and where neither bark nor quinine could be tolerated.

In conclusion, let me again recapitulate the advantages of this drug: it is tolerated where neither quinine, nor salicine, nor bark can be administered with impunity; it is particularly adapted to young children; it is not expensive; and we are not depending for its supply on the rapidly-diminishing cinchona forests of South America, but have abundant supplies of it at home.

ART. VI.—*On the Therapeutical Action of Veratrum Viride.* By
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U.S.A.

THE *veratrum viride* was brought to the notice of the medical profession in America, by Dr. Charles Osgood, of Providence, R.I., in a paper published in the *American Journal of Medical Sciences*, in 1832. Dr. Osgood derived a portion of his information

from his preceptor, Professor Tully, of Yale College. At that time it attracted a good deal of notice as being analogous in its therapeutical effects to a plant of the same natural order of the *Melanthacea-Colchicum*. After this it fell into disuse, and it is now about twelve years since it has again been brought before the profession of the New World as a sedative agent. To Dr. W. C. Norwood, of Cokesbury, S. C., belongs the credit of first calling attention to the unusual virtues of this medicine as a sedative in inflammations, and he induced many in the South to test its powers with success.

The writer was also led, by hearing of its remarkable properties, to test it in his father's and his own practice as an independent experiment. He collected the root, made the tincture by displacement, and gave it to patients carefully. These essays were satisfactory. Then he distributed some of this same article to the members of the Middlesex East District Medical Society, (Mass.) for systematic trial, and so pleased were they, that a committee of three were appointed to bring it before the Massachusetts Medical Society, in May 1858. The committee distributed, gratis, about 400 two-fluid-ounce phials of their tincture, made from roots mainly collected by themselves. These phials were accompanied by suitable labels, and a descriptive circular, together with a mutual paper, made up of contributions from the members of the Middlesex East District Medical Society. This paper was published in the journal above alluded to, in October, 1858. In time, returns were received by the committee from the Massachusetts Medical Society, the substance of which formed a second paper, which was also published, in October, 1861.—(*Ut supra*.)

Besides this, other medical bodies and individuals, as the Indiana and Illinois Medical Societies, have investigated the *veratrum viride*, though not in the same thorough way, so that from the evidence already accumulated it seems clearly proved that the *veratrum viride* is a depressant of remarkable power. But how does it act? Some, looking at its primary action upon the heart and circulation in lowering the fulness and frequency of the pulse, deem, and call it an *arterial sedative*. On the other hand, those that regard the secondary effects that attend the full dose, class it as a *nervous sedative*.

Let us examine this more closely.

The uniform testimony of those who have observed its action upon the human system in health is, that the primary effect is in

Fig. 1.



Fig. 3.

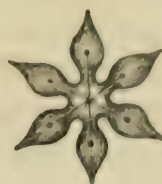


Fig. 4.



Fig. 5.

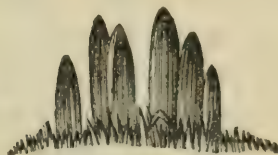


Fig. 2.



VERATRUM VIRIDE.

Fig. 1, the plant ; Fig. 2, the root ; Fig. 3, the flower ; Fig. 4, the seed envelope ; Fig. 5, the early appearance of the plant.

the prompt lowering of the pulse from its normal standard to 52 or 40 pulsations in the minute. By prompt, is meant its action within one hour or two. This, except the impression upon the palate, is the first phenomenon generally noticed. The subject feels nothing peculiar. His mind is not clouded, and he may attend to ordinary duties without inconvenience. The urine is somewhat increased in quantity, and lowered in its specific gravity. Whether there is any further morphological change has not yet been determined. Nor yet whether the alkaloid of the *veratrum viride* is found in the urine of the person who is under its influence in health.

Now this simple sedation of the heart and circulatory organs, without interfering injuriously or notably with the performance of other functions, may be maintained for some time. This has been found of value in such affections as organic cardiac diseases, headaches dependent upon arterial excitement, and the milder sthenic and asthenic fevers. Practically, it has been found to bear out the analogous effects that it produces in its physiological use. In this manner the *veratrum viride* removes, in inflammation, its most prominent characteristic symptom. Destroy the quickness of the pulse in pneumonia for instance, and you strip the disease of one of its evils. The congested and inflamed lung, already loaded to the utmost, with the pulse at 120, is still further gorged by blood, which, allowing that two fluid-ounces of blood are expelled at each pulsation, is propelled at such a rate as would accomplish the whole round of the circulation in a minute or a minute and a half. The time for aëration is thus diminished one-half. Of course the respiration is quickened in the endeavour to respond to the increased demand for vitalizing air. The exudation process is accelerated, and solidification sooner ensues. Now, the *veratrum viride*, by reducing the heart's pulsations from 120 to 60 (or any other medium point you choose, by graduating the dose in quantity or frequency) diminishes the force and fulness of the circulation, by reducing its rapidity. The pulmonic and systemic rounds are accomplished in a longer time, and the danger of overwhelming the lung is lessened. Not that the inflammation is arrested or destroyed, but both the lung and the economy in general are enabled more easily to bear the phlogosis, and, what is still better, the processes go on more readily and safely to a healthy termination in resolution.

Besides adding to the personal comfort of the patient, in abating the violence of his heat and fever, the *veratrum viride* thus

affords him a speedier convalescence than if he had not been interfered with. There is not such an expense of vital force as is necessary to keep up the inflammation to a high pitch. The intensity is lowered. The pabulum is not fanned to so high a glow. The excitement is abated. So there is a much wiser and more economical expenditure of the *vis medicatrix nature*.

Are not these indications worth following out? Now, this degree of action of the *veratrum viride* may not be attended with injurious effects upon the economy *per se*. It is well borne in health, and, from practical experience, it is known to be well borne in disease. Besides pneumonia, this slow-pulse treatment has been found well adapted to other phlegmasiæ. In rheumatism, pleuritis, scarlatina, typhoid fever, and in the whole range of inflammatory diseases these indications have been desirably carried out by means of the *veratrum viride*.

All these uses, in directly diminishing the fulness, force, and frequency of the heart's pulsation, and the consequent diminution in the frequency of the respiration, with the slight diuresis, as developed in its employment in health and disease, seem to indicate its direct action upon the circulation as an *arterial sedative*. However, the *veratrum viride* does not appear directly to change the chemical character of the blood by altering its constituents and its plasticity, as arterial sedatives are said to do.

When the *veratrum viride* is taken in maximum doses of eight minims, and pushed to a full effect, the following phenomena are witnessed in health:—

- 1st. A reduction of the pulse, sometimes to 30 beats in a minute.
- 2nd. Nausea and vomiting.
- 3rd. Profuse sweats.
- 4th. Coldness of surface, subjective and objective.
- 5th. Reduction in the frequency of the respiration.
- 6th. Dilatation of the pupils.
- 7th. Nervous sensations, such as numbness all over the body, tingling in the extremities, muscular weakness, inability to move, and a feeling of immediate dissolution.
- 8th. Pallor of countenance, &c.

In disease the same results are witnessed, only "more so." The increase of secretions is more marked. Now, such results seem to rank the *veratrum viride* as a *nervous sedative*, since its action is so much upon the great nervous centres.

If pushed, after such effects, no doubt life could be destroyed ;

but no fatal, well-authenticated case, has come to the knowledge of the writer. The largest dose he has known to be taken was one fluid ounce of the tincture of the root, which only is officinal. This was swallowed, by mistake, by an invalid lady, of middle age. In half-an-hour it was vomited, and the patient regained her status in about a day. During the action of the dose, she was able to ride some fifteen miles in a chaise.

Now, these secondary full effects of the *veratrum viride* have been found of great value in arresting the too great action of sthenic inflammations. Sometimes, indeed, when thus given, its use is followed by such an immediate change in the character of all the symptoms, that the disease seems to be annihilated, as if by magic, and convalescence established at once. Such results have been witnessed in pneumonia and puerperal peritonitis. Venesection acts thus sometimes.

Usually, however, it is found best, after having thus once established this full impression, to keep it up by repeated doses, diminished in quantity and frequency. Thus you may, as it were, hold the inflammatory action at bay. The *veratrum viride* may be continued thus till convalescence be established.

One gratifying characteristic of the *veratrum viride* is the promptness and surety of its action. Many practical physicians have testified to this, while a very few have reported to the contrary.

When, from idiosyncrasy or other unknown cause, the veratrum viride fails to produce its alleged effects, it is a good plan to push on to nausea, by doses given once an hour, and then, if the peculiar effects do not follow in lowering the pulse, the failure must be charged to the drug. For the *veratrum viride* is not a specific. No pure specifics are known in the materia medica. But it is safe to call the *veratrum viride* as sure in its effects as opium or quinine, which sometimes disappoint our expectations.

The great point in the *veratrum viride* is its use in sthenic inflammations, where the lancet is indicated, and in those numberless cases where a depletory effect is to be maintained, but in which depletion cannot be borne. There are once in a great while cases where the lancet cannot be dispensed with, but even then the *veratrum viride* is an excellent remedy to follow and keep up the impression of the primary depletion.

Compare the effects of the *veratrum viride* with those following the loss of blood. These may be characterized as threefold, namely: 1st, As diminishing the force, frequency and fulness of the pulse,

directly; 2nd, As a sedative upon the nervous system, indirectly; and 3rd, As diminishing the quantity and quality of the vital current, by a direct withdrawal of a portion of the solid constituents. Now, we have seen that the *veratrum viride* possesses the two first characteristics. The latter characteristic, just the one that we want to avoid as injurious, does not attach to the *veratrum viride*. There is no loss of red and white corpuscles, with other constituents to be made up, although there is a secondary depletion by the increase of the secretions. Again, depletion sometimes defeats its own object in cases where, by endosmosis, the blood regains its quantity, rendering a secondary or even a tertiary venesection necessary, when the patient is less and less able to bear it. Now, on the other hand, the *veratrum viride* can be repeated and its impression continued for an indefinite time. Having once, as it were, got the disease under, it may be kept so. Yet again, there is a large class of subjects in whom, from nervous susceptibility and weakness of constitution, depletion is wholly forbidden; *here* is the field for the *veratrum viride*, when such are attacked by inflammatory complaints. Moreover, *veratrum viride* can be given in connexion with stimulants, where a tonic and yet depressing effect is required. It is so given in wine in some cases of puerperal and typhoid fever. Also in the irritative fever following burns, wounds, cuts, and surgical operations, it is found to answer a good purpose.

Compared with *digitalis*, the *veratrum viride* is prompt, sure, and not cumulative; while the former is slow, sometimes uncertain, and cumulative. Both are diuretic, but the *veratrum* the less so.

Compared with the tartrate of antimony and potassa, the *veratrum viride* does not generally act on the bowels, or change the character of the secretions like the former. Nor are its effects so permanent, for, when omitted, it seems to be quickly eliminated.

In fine, the *veratrum viride* is well worth a fair and patient investigation at the hands of intelligent physicians and surgeons; and it may not be improper to state, that the writer has placed within the reach of the house of Bewley & Evans, in Dublin, a supply of the tincture of *veratrum viride*, exactly similar to that submitted to the Middlesex East District and the Massachusetts Medical Societies.

ART. VII.—*Further Observations on Typhus and Typhoid Fevers, as seen in Dublin; especially the united form they assumed during the first half of the year 1862.* By HENRY KENNEDY, A.B., M.B., one of the Physicians in Ordinary to Sir Patrick Dun's Hospital.

IN May, 1860, a paper of mine was read at the Royal Med.-Chirurgical Society of London, "On Typhus and Typhoid Fevers, as seen in Dublin." Its main object was to show, that whilst these two types of fever could, in the great majority of instances, be distinguished from each other, it was yet essential that they should be considered as the result of a common poison; and that no other view of the matter either would or could meet all the difficulties which surrounded the question. Nothing has occurred since to alter the views then advanced. But I have had some additional experience, both in hospital and from books; and, as the subject is by many still considered unsettled, have thought well of bringing it once more under the notice of the profession. Some, for whose opinion I have a high respect, consider the questions involved of no moment, or at best of mere scientific curiosity; and have even gone so far as to state, that there is no occasion for a difference of treatment in the types of fever known as typhus and typhoid. I believe this to be a grave error; and that no one who has to do with fever, on the large scale, could possibly give his assent to it, as he knows that the diagnosis, prognosis, and treatment, are all essentially modified, according to the type of fever with which he has to deal. The recent deaths too of more than one illustrious person, from fever, have not tended to lessen the importance of every point connected with the subject.

Before entering on the more immediate object of this paper, I think it necessary to notice a line of argument which has been followed by many, especially in London. All are aware that Dr. Jenner, of that City, has published an elaborate monograph *On the Identity or Non-identity of Typhoid and Typhus Fevers*. In it he has avowedly omitted all notice of the labours of others in the same field; and has come to the conclusion, that the two fevers are essentially different, and the result of different poisons. Now in a wide spread disease like fever I can scarcely conceive a mode more likely to lead to a wrong conclusion. Had the author put forward his views as representing the two types of fever as they came under his notice in London, I could have understood him;

and a very valuable contribution it would have been. But to seek to establish that they are essentially two diseases, both as to causes and symptoms, is going farther than any present experience will justify. Other observers, equally competent with Dr. Jenner, have seen fever, and, it may be observed in passing, on a much larger scale; and—what might have been easily anticipated—have come to an opposite conclusion. Yet, at the meeting in London two years since, not one member of the society expressed even a doubt on the matter. Their views were limited to London, and nothing outside it could alter them. If this be the right way of dealing with such a question, I must indeed be much mistaken. It is true that since then more than one gentleman seems, from cases which were brought before the London Pathological Society,^a to have had some misgivings on the subject; and, if I recollect right, Dr. Copland, on one occasion, spoke of the necessity of caution in coming to too strict a conclusion about the types of fever. Still the fact remains, that the London physicians seem to have ignored anything but what has occurred in their own city.

But another and more serious objection exists against the monograph of Dr. Jenner; or taking it as the foundation of a theory on this much debated question. The conclusions at which he has arrived are avowedly based on 64 cases only; and, as these were all fatal, it follows that his deductions were founded on a minority, and that a very small one. For it cannot be supposed for an instant that the fatal cases formed the majority. Can I be wrong, then, in asserting that the natural history of no disease—and this is really the question at issue—is to be learned from such premises? A very good, and, no question of it, a very faithful record the monograph is, as far as it goes; specially on the morbid anatomy of the types of fever of which it treats. But to suppose that it either can, or ought to teach us their natural history, is flying in the face of common sense. No one, I think, will for a moment put this monograph

^a One instance given in the *Lancet* of 19th October, 1861, may be alluded to. Dr. Wilks exhibited a specimen of ulcers of the ileum in a woman of 70. He proceeds:—“Thus, in the present instance, the disease would rather have been styled typhus, had not the truth been discovered after death. The woman was nearly 70, in an extreme state of prostration, and delirious; no diarrhea, and no rash of any kind. All the circumstances existed which should have determined the typhus, rather than the typhoid disease, and yet the latter existed with all its characteristics; a good case,” he continues, “in proof of the specific nature of the disease.” What disease, I would ask, or rather, which disease? for it is left quite uncertain; as, indeed, the details would leave any reader.

in comparison with that of Huss, who gives us the result of his observations on upwards of 3,000 cases. No, no. The natural history of any disease is to be learned from the living as well as the dead; and, inasmuch as the living constitute the great majority, we prefer to have it taken from them. In Flint's very elaborate work the subject is treated in a different mode; for he avows that he left out all the cases of the type of which he was not quite certain; and took his data from the rest. But this too, is a questionable proceeding; and we must infer that his conclusions are only an approximation to the truth.

What then are the results at which Huss has arrived? His observations being spread over 20 years, applying to different epidemics, and his colleagues all agreeing with him. Why, that the two types of fever, typhus and typhoid, are to be considered as arising from a common cause. At page 10 I find the following passage:—"A number of intermediate forms (that is of fever), were of frequent occurrence, making it utterly impossible to determine the true nature of the case, whether petechial or abdominal, as there were symptoms of both. Often such symptoms were observed as seemed to announce an affection of the intestinal glands; but the *post mortem* examination did not discover any; in other cases these alterations were found, and the symptoms had indicated a petechial form." One of the epidemics he describes, though of but limited extent, seems to me specially worthy of note. It broke out amongst 250 soldiers, all between 20 and 40 years of age, and placed under exactly the like hygienic conditions; and yet "the disease assumed the distinct form of typhus in one part of the cases, of typhoid in another, and a third took an intermediate form."—64 cases occurred. Farther on also he states, that in one house 17 cases occurred within a fortnight; of which 10 were typhus, and seven typhoid.

If these be not facts enough to satisfy most minds, I know not what could be considered such; nor can any observations as to contagion or the locality whence the fever comes, either in London or elsewhere, contravene them.

Another point noticed by Huss—and it is common with us in Dublin—is the change in type of the disease. Thus, at the commencement of the epidemics he describes typhus as the prevailing form; and then later on the fever became typhoid. It is true he did not observe the contrary, but the fact in itself is worthy of notice, as it seems to myself to be much easier of explanation on the hypothesis of there being but one poison, rather than two. And

this leads me to speak of the analogical argument, as it may be called, and which has not escaped Huss, who maintains that scarlatina presents just as striking differences in itself—and none, I think, can gainsay him—as are ever seen between typhus and typhoid types of fever; and I must say it devolves on those who differ from him to answer the argument as they best can. To myself it seems unanswerable.

When I last wrote on this topic I was not aware of a fact which has since come to my knowledge, viz., that the kind of ulceration met in typhoid fever is not confined to that disease alone, but is occasionally seen in other affections. Thus, Flint speaks of a case of scarlatina in which he found ulcers in the ileum. So, likewise, Huss met the same; and Dr. Anderson, of Glasgow, in his Lectures, published in 1861, gives two instances of a similar kind; one being a case of confluent small-pox, and the other one of scarlatina.^a Now, though there are but five such cases in all, they yet appear to me to open up a new question on the subject. Is the intestinal lesion common to all the class of fevers, the exanthemata amongst the rest? Had it been looked for, would it have been more frequently found? The answers to these question cannot, at present, be given, but must be looked for in future investigations on the subject. I, myself, have directed attention to the great similarity between the intestinal ulcers which sometimes are found in phthisis, and those which exist in typhoid fever; a similarity so striking that the question has often forced itself on my mind—can it be possible the ulcers of this fever are mainly due to the existence of the strumous constitution? Every one knows that they vary both in extent and degree; in other words, they do not necessarily bear a relation with the progress of the fever. The latter may prove fatal, and yet the amount of intestinal lesion be very slight, and *vice versâ*; and, far-fetched as the idea may be, in connecting the ulcers of typhoid fever with the strumous diathesis, there are yet some points may be adduced in its support. Thus, the class of patients in whom this type of fever usually occurs are frequently marked by having a very fine skin, and great susceptibility of constitution. I have seen them also having scars on the neck; and when phthisis chanced to supervene it was far more frequently after this type of fever. But though these are striking facts I would not wish to do more at present than start the idea, of the possible connexion of the intestinal lesion of typhoid fever with the strumous diathesis.

^a Louis also met a similar case.

And now I would speak of the additional experience two year's attendance at Sir Patrick Dun's Hospital has afforded; and believe no better plan can be adopted than by giving the shortest possible details of the more striking cases which occurred. In doing so a large number of cases of a milder character are purposely omitted; not because they arose from a different poison, which it is the fashion of the day to maintain; for they often came from the same room, and at the same time; but because their progress threw no light, one way or another, on the question under discussion. This much, however, is certain—that even *febricula* exhibits its full share of varieties; and I have seen fever with spots, though not within the last two years, which could scarcely be called other than *febricula*, it was so mild and required so little care. As to making the cases into a series of statistics, I have long given up the idea. In the present question, as to the identity or non-identity of the typhus and typhoid poisons, I believe they have led, and can only lead, to erroneous results. Had they been confined to points about which there could be no doubt, as the difference of the sexes, or age of patients attacked, advantage would have been gained. But when I find the following conclusions—founded on statistics—drawn, I cannot but question their value. I quote now from Flint's work, published in 1852, page 237:—"General aspect.—Capillary congestion of the face, extending frequently to the extremities, causing a dull red colour, present in all cases of typhus, and in a large proportion of the cases of typhoid. Nervous system.—Passive delirium, manifested by incoherent talking, attempting to get out of bed, present more constantly in typhus; but very active persistent delirium, requiring forcible restraint, characteristic of typhoid. Digestive system.—Appetite, or relish of food, oftener present in typhus. A reddened tongue, occasionally observed in typhoid, and not in typhus.—Diarrhea, present in one half of the cases of typhoid, and in one third of the cases of typhus; in the latter type always mild or slight, but in the former sometimes prominent as a symptom.—Hemorrhage from the bowels characteristic of typhoid.—Epistaxis extremely rare in typhus, occurring frequently in typhoid.—Tympanites present in about an equal ratio in both types; but in typhus almost invariably slight, while in typhoid it is often prominent."

These extracts might easily have been multiplied. To myself they appear to be labour thrown away, being distinctions without a difference; nor do I think they could be available at the bed-side;

some of them too are directly opposed to my own experience. I might instance "active persistent delirium" as being characteristic of typhoid. If there be one general point more than another to separate the two types, I would say it had reference to the brain; and to the greater freedom of this organ in typhoid, when compared with cases of typhus fever. Again, when the author speaks of "appetite, or relish for food, oftener present in typhus." What can be inferred from it? Is it that appetite can be put down as in any way a mark of distinction between the two types of fever? Surely not; the natural history of fevers entirely forbids such an idea. Appetite, as far as I know, is not a symptom of any kind of fever: the very contrary is the rule; and, when it does occur, it is so exceptional that it is not worth a moment's consideration as bearing on the question.

But further: The author states that "diarrhea is present in one-half of the cases of typhoid; and in one third of the cases of typhus; in the latter type always mild or slight, but in the former sometimes prominent as a symptom."—The words are quoted as given in Flint's Work; because the statement is really very startling. I do not for a moment question its truthfulness; but it must strike every one as very strange, that in America only one-half the cases of the typhoid type had diarrhea, and this only sometimes a prominent symptom; whilst in typhus the proportion, presenting the same symptom, was one-third. In Great Britain and Ireland, and I believe on the Continent too, cases of typhoid fever with constipation, are far in a way the exception to the general rule: and on the other hand, typhus attended by diarrhea, in the proportion of one-third, must be considered equally rare. That it does, however, occur, at times in Dublin, I know, of which I shall have to say more again.

Hemorrhage is another symptom, about which there would seem to be a very marked contrast in different places. In Paris, Stockholm, and America, it is described as very rare. In London it was met with in a third of 23 cases of typhoid, and not at all in 43 cases of the typhus type. Hence, Dr. Jenner has come to the conclusion, that intestinal hemorrhage is characteristic of typhoid, and not of typhus. That this is erroneous as regards Dublin, I have no doubt. In another place I have put on record, some 30 cases of well marked typhus—some of them examined after death—in which there had been extensive hemorrhage; and yet not a trace of ulceration was found: and when the patient survived the

bleeding a week, it having ceased, I was unable to say from what part of the canal the blood had come. It must, in fact, have been an exudation. As to epistaxis being a sign of typhoid and not of typhus, I cannot give it credence; and for the simple reason that, for years, I have been noting cases of typhus in which it occurred. I am quite aware that it exists, at times, in typhoid. All I would convey is, that it is common to the two types: and prevails much more at some periods than at others. Thus, with us in Summer, and with the temperature high, it is sure to prevail; no matter what the type of fever may be.

But statistics have been brought to bear on points which I believe have nothing to say to the natural history of fevers. Thus, because erysipelas occurred in some cases, and in typhoid more than typhus, it is put down as a diagnostic mark of the two types; and similar remarks may be applied to pneumonia.^a To my mind it appears a much more rational method to look on them as mere complications; prevailing at one period and not at another; for whilst we have fever of the different types always amongst us, months and months frequently elapse without either pneumonia or erysipelas complicating them. If these be not good reasons for setting them aside altogether—as not bearing on the question under discussion—I am at a loss to know what is.

It would be easy to say much more on statistics, in relation with this subject; but enough probably has been advanced to show the mistakes to which they may lead; as having reference to points—I will not call them symptoms—which are not, and cannot be accurately defined; or which must be placed under the head of complications; and therefore, not belonging to the natural history of fevers. These considerations, at any rate, have induced me to deal differently, and, as I believe, more correctly with the question; and I now proceed to give the briefest sketch of all the serious cases of fever which have come under my notice within the last two years. They are given in the order in which they occurred.

CASE I.—Miss M., aged 16, pay patient, admitted into Dun's Hospital, in June, 1860. Ill with fever of typhoid type 17 days.

^a Louis speaks of erysipelas as occurring with typhoid fever; but he takes special care to tell us it occurred during one year only, and attributes it to what we would call an epidemic constitution. And in Bartlett's Work, p. 66, I find the following:—"Neither the symptoms nor the lesions go to show that the lungs play any very important part in the numerous and complicated phenomena of typhoid fever."

There were diarrhea, slight tympany, pain on pressure, and the usual discharges. But there were no spots till late in the disease, when two of very doubtful character appeared; one on the chest, and the second on the abdomen. Though her eyes were suffused, she had no head symptoms whatever. The tongue, at first moist, then became dry; sordes formed in large quantities, and finally there was oozing of blood from the gums. This organ, in truth, went through all the stages which are more usually seen in typhus fever. The abdominal symptoms did not yield till specific treatment was adopted; of which more again. Later still there was distinct crisis by sweat.

CASE II.—Walshe, aged 28, married, of sanguineous temperament, and very fine skin, was admitted in June, 1860; ill of fever 14 days; typhoid type. She had the usual abdominal symptoms, except that there was no pain on pressure. The eyes were heavy and the mind slow; but there was no raving. The tongue, all through kept moist; at the same time that it was densely coated with a drab fur. The discharges at first yellowish, became darker as the disease went on to recovery. On the 20th day three spots were visible; one on the chest, and two on the abdomen; the latter being very much larger than usual, and not affected in any way by pressure. They remained more than a week; during which period two new spots came out on the left side of the abdomen; not so large as the other two. Though diarrhea had ceased, and fever in a great degree with it, still a marked crisis occurred by sweat, which lasted several hours.

CASE III.—A boy of 16, of a strumous aspect, and fine skin, was admitted in July, 1860; after being ill several days at home; but the number uncertain. He had all the symptoms of typhoid fever in a very aggravated form; attended by raving and bawling at night; and this went on even when the abdominal signs had materially subsided. The rash was much more extensive than usual, and might be described as measly; being darker on the trunk and lighter on the arms. After a very marked improvement this case relapsed; all the symptoms, including diarrhea and raving, got worse and worse. The boy was removed from hospital two days before death. It is worthy of note, that during the apparent improvement his pulse never came down.

CASE IV.—Miss S., pay patient, aged 17, of sanguineous

temperament, and the finest skin; admitted, July, 1860; labouring under fever which she had attributed to a severe wetting. Except that she had diarrhea, with the discharges of a light yellow colour, and then becoming darker before they ceased, this case presented no other symptoms of the typhoid type of fever. No spots, nor tympany, nor pain on pressure. The fever, however, ran on to 21 days. I must leave it to others to give it a name.

CASE V.—Coates, aged 48, admitted, April, 1861; ill eight days of fever, and densely spotted. The spots were not only visible on the trunk, where many were of the most irregular shape, and as if formed from the rupture of a blood vessel; but there were several on the face, and here they were of a much brighter hue than the others. It is enough to say of this case, that all the symptoms were of the gravest character; hands and feet livid; artery at wrist quite distinct to the finger, and yet the pulse barely perceptible; cerebral respiration with stupor; rolling of tongue in mouth, &c., &c. At first there was a tendency to diarrhea, and all through marked subsultus. This man died the 13th day of his illness.

CASE VI.—Coates; the wife of the last patient, took ill a few days later than her husband. She had all the symptoms of the same type of fever; but in an infinitely less severe form. The spots might be described as a mottling, and could only be seen in a strong light. Though the eyes were very much injected there was scarcely any stupor; and her sleep was barely disturbed.

CASE VII.—Coates, aged 22, daughter of last patient, was ill same time, and admitted ninth day of fever. She was spotted to a degree rarely seen; and in this instance the spots were, at first, much darker on the arms, especially about the elbows, than elsewhere. They then became as dark on the body, were quite plain on the face, eye-balls, and eye-lids; and gave a very peculiar expression to the face. All the other symptoms were equally severe; pulse 130, hands and feet livid, and very great distress, particularly at night. But there was one symptom she did not exhibit. The brain remained comparatively free. It is enough to add, that after a prolonged struggle, this case recovered; crisis occurring by sweat and sleep; each prolonged over nearly three days.^a

^a This case was the more remarkable as she laboured under chronic phthisis at the time; and, as I believe, adherent pericardium; for she had been under my care previously, suffering from acute rheumatism and pericarditis.

CASE VIII.—The sister of last patient, aged 19, when seeing her people in hospital, fainted, and from that moment her fever began. Like the last she was extensively spotted, even on her face; but the spots were brighter on the arms than elsewhere. She presented no peculiar symptom, and made a rapid recovery.

CASE IX.—Oxford, shoemaker, aged 18, fine skin, admitted May, 1861, with fever of typhoid type. He described the attack as commencing on a particular day; nor did he vary from this though asked several times. He had all the usual symptoms, including a few spots on the chest and abdomen. His nose bled early in the attack, and again on the ninth day it bled three times; still later, on the eleventh day, he lost some blood from the bowels, but not in serious quantity. His recovery was rapid.

CASE X.—Dalton, girl of 20, fine skin, admitted May, 1861. Ill three weeks, but only confined to bed three days. Presents all the signs of typhoid fever in a severe form. Tongue red and densely furred, stomach very irritable, diarrhea, with the characteristic discharges most profuse; no spots visible. Four days after admission there was an effort at crisis by sweat (she was now ill 25 days), but it did not prove salutary, and the fever ran on three weeks longer, during all which time the stomach remained irritable, and also the bowels. But the symptoms had materially declined in severity; still I could not pronounce the patient well; and as signs of hectic now began to appear, it was thought best to send her to the country, her recovery being very doubtful. There can scarcely be a doubt this patient had ulceration of the bowels on admission.

CASE XI.—Mr. —, pay patient, aged 24, had a rigor on Saturday, 27th April; admitted 2nd May, 1861, labouring under fever. Very generally spotted over body, and plainly on the backs of the wrists; none of them dark. Has a musical bruit over the heart, attending the first sound. Eyes injected, skin hot, bowels moved four times during the last 24 hours. Has no pain on pressure nor tympany. As the case progressed the tongue got dry and brown, and sordes appeared; and the bowels still remaining too free, specific treatment was used to moderate their action. Finally, crisis by sweat occurred; this was slight at first, but at the end of 48 hours it had become very profuse, and terminated the fever. The bruit

was persistent. In this case I had the valuable assistance of Drs. Stokes and Hudson.

CASE XII.—Mr. —, pay patient, aged 19, fine skin, admitted August, 1861, with fever of typhoid type; except his having epistaxis three times in one day, and early in the disease, the case presented nothing peculiar, and he got steadily well when specific treatment was used, but not till then.

CASE XIII.—Mr. —, pay patient, was seized with a feeling of illness after remaining nearly half an hour in the sea. For some days he struggled against it, but at last had to keep his bed; and when seen on 23rd day presented all the symptoms of typhoid fever. The spots were well marked, the skin had calor mordax, and there was slight tympany, with pain on pressure, and sharp diarrhea. His nose bled slightly on the 25th day, at a time when his pulse was, in a marked degree, dicrotous. This case was very rebellious to treatment, and ran on till the 37th day; and the tongue began to clean, and become moister, some days before the other symptoms improved. When at the worst this patient presented a curious alternation of raving and stupor.

CASE XIV.—A man of 25, of unusually fine make, and tall stature, was admitted in August, 1861. His skin was very fine. He was ill some days; but the exact number could not be made out, and he had all the symptoms of fever of a typhoid type. There was also great raving, and again stupor. The case got steadily well; except that his convalescence was delayed by the formation of several bullæ on the hips. It was curious that other cases suffered in exactly the same way, at the same time; but they were not under my own care.

CASE XV.—Kernan, a man of 26, fine skin, admitted August, 1861, with fever; ill seven days. For the first two or three days the type of fever very doubtful; then diarrhea began, and spots came out; at first very characteristic of the typhoid type of fever; but in two days they had become a regular crop, of a uniform colour, over the whole body; there were none, however, on the face. Three days later still, a totally different rash appeared; it was distinctly elevated, very plain on the face, and over the entire person, and more like lepra than anything else to which I could

compare it. It came out very rapidly, and lasted exactly four days. The fever, which did not seem to be influenced by it, yielded but slowly. The tongue all through was red, furred, and angry looking, and this condition of it was the last symptom to disappear.

CASE XVI.—Mr. —, pay patient, aged 30, pock-marked, very fine skin, admitted after being 14 days ill of fever of typhoid type. Spots and diarrhea very marked; but there was neither pain on pressure, nor tympany, nor raving. Though this case was not a severe one, it did not yield till specific treatment was used.

CASE XVII.—Nugent, a woman of 30, came in October, 1861, to the hospital, with so little wrong that I had doubts about taking her in. As she had been complaining however for three weeks, had a red tongue, and some pain in abdomen, she was admitted. She had no diarrhea. She remained in this state eight days; not well, and yet apparently so little wrong that she could scarcely be said to be ill. The pulse was not raised, no spots had appeared, no tympany, and pressure on abdomen caused uneasiness rather than pain. The tongue, however, remained still very red, but without fur. At the end of the time described, and when she must have been nearly 30 days complaining, fever began to light up. The pulse quickened, the tongue got furred and tremulous; she became deaf, began to rave; subsultus showed itself, with extraordinary tremor of the hands, and, in spite of every care, there was stripping. In this way she went from bad to worse, and died on the 24th day from her admission into hospital; so that her illness occupied at least six weeks. I regret to say no examination could be obtained. It must be left to others to say where they would place this case.

CASE XVIII.—A child of eight years old, private case, was attacked in October, 1861, with gastric fever of a severe form. All the symptoms ran very high; there were raving and great restlessness. In the progress of this child's illness the fever put on all the characters of typhus. The lips and tongue became covered with sordes to a degree rarely seen in childhood; there was great stupor for several days, and tympany in a very marked degree. No spots appeared; the child made a good recovery.

CASE XIX.—M'Kee, a lad of 20, fine skin, admitted November, 1861, labouring under fever of a typhoid type. He had been ill

several days, exact number not known. All the symptoms, including the spots, very well marked. There was not any peculiar feature in this case, except that it proved most rebellious to treatment, not yielding till the medicine was carried to the highest dose.

CASE XX.—Cahill, woman of 30, admitted in last week of November, 1861, labouring under fever of five days' duration. The attack was marked by a pulse of 140, by bright and injected eyes, and raving for the first three or four nights; tongue furred and reddish, but moist, and keeping so. This case proved most embarrassing. It went on day after day without the slightest appreciable change, except that the raving ceased. She was repeatedly examined to see if any local cause existed to account for the duration of the fever; and with this view was seen by Drs. A. Smith, Moore, and G. A. Kennedy, but none was detected; neither were there spots at any time, whilst the pulse kept up to 140. In this way the fever went on till the 32nd day, when sweat appeared; which though very marked and aided by treatment, did not resolve the attack. But it recurred again on the 39th day, and now proved critical; the pulse falling to 96 within the first 24 hours. The sweat lasted continuously for three days, and was to a degree rarely witnessed. It could be seen literally steaming through the blankets. Though a long time very weak she made a good recovery. In former years I have seen similar cases; and believe they are to be set down to peculiarity of constitution, rather than type of fever.^a

CASE XXI.—Boylan, a woman of 50, admitted December, 1861, 12 days ill of typhus fever. She was densely spotted, and sordes so great as to prevent her putting out the tongue; recovered.

CASES XXII., XXIII., XXIV.—Three children of last patient, one girl and two boys, were in hospital at the same time, labouring under fever. None of them were spotted, but one of the boys had a much severer attack than the other two; he was the youngest, being seven years old.

This brings my remarks to the beginning of the present year; when it was observed that fever began to increase; not only in Dublin, but also in some of the healthiest localities about it. A

^a Though several of the cases given presented crisis, I have not thought it necessary to dwell on it in this paper. It will be observed that it occurred in both types of fever. It is certainly much more frequent in some years than others.

large number of the middle ranks were attacked, and in our hospitals the increase was very marked. But the change in type was the most remarkable point observed. As, however, I have reasons for knowing that an account of what occurred in other hospitals will be published, I shall continue to notice only what came under my own eye.

CASE XXV.—Newbottom, a boy 12 years old, admitted in February, 1862; labouring under fever in a very severe form. He was densely spotted, had great sordes, tympany to a very marked degree, and stupor. Some who saw him thought he would die. His recovery was rapid.

CASE XXVI.—A girl of 16, passed through the heaviest form of typhus; during which she was densely spotted. The spots were very dark on the body, but of a much lighter hue on the arms and wrists. She had tympany very marked. Recovered.

CASE XXVII.—Neill, a man of 20, very fine skin, admitted February, 1862. He had fever of a typhoid type, well marked in every respect, except that from first to last no spots appeared. His chest was a good deal engaged.

CASE XXVIII.—Mrs. —, aged 47, living in suburbs; was attacked with fever of the gastric type. The tongue was red, and slightly furred, pulse 130, and she complained much of her head, with a sense of heat in the stomach; here pressure gave pain. She preferred cold drinks. There was constipation all through. The attack lasted 24 days, and no spots of any kind appeared. At the height of the disease there was a great deal of tremor, especially of the extremities. The tongue changed to the healthy state very slowly. This case I saw with Dr. Boles.

CASE XXIX.—A gentleman, aged 33, residing four miles from the city, was attacked with fever of the gastric type. For the first three days there was considerable irritability of the stomach; there was also very distressing intermittent headache, and a complete loss of sleep. No spots appeared. All through there was constipation, and the urine had a large deposit of lithates in it. On ninth day there was a marked effort at crisis by sweat, but it did not end the attack, which went on to the 21st day, when sweat again appeared,

lasted off and on three days, and proved critical. In this case I had the assistance of my friend, Dr. Hudson.

CASE XXX.—Barlow, a woman of 55, admitted March, 1862, with fever of the gastric type; except running on more than 20 days it presented no peculiarity.

CASE XXXI.—Lacy, a woman of 45, admitted March, 1862, when 17 days ill of gastric fever. She was much sunk in the face, and the upper lip was broken out. The tongue was very red, hacked, and sore; and yet had little fur on it. No spots visible. All through there was constipation. Her recovery was very tedious.

CASE XXXII.—Fegan, a man of 30, admitted March, 1862; he seemed to have little wrong; and yet there was a something about him which at once caught my attention. Any complaint he made was referred to the stomach. He had a loud harsh cough; for which, however, I could make out no cause. The first day there was nothing of what could be called fever on him. The second, a marked change had occurred. His pulse was now full and bounding, though beating only 86; and he complained of having got no sleep, and of his throat being sore. On looking into it I found it was red; but there was no ulceration nor effusion of lymph. From this time forward—being now six days ill—fever slowly but steadily increased from day to day. The tongue, at first morbidly clean, became red and furred; the skin hotter; pulse quicker; nights worse; great distress, with marked prostration. There was also some discharge from the eyelids, and for the last two days of life very marked tympany. He died on 13th day. In this case no spots appeared, nor was there diarrhea; and the mind remained all but clear. The patient was of a full habit of body, and impressed me with the idea that, though fat, he was in bad condition. It must be left to others to give this case a name.

CASE XXXIII.—Mrs. W., pay patient, aged 30, admitted, April, 1862; being 10 days ill of fever. She was copiously spotted; eyes injected and suffused; and her tongue very dry and rough, but not much furred. There was no tympany, but the bowels had been and still were too free; being disturbed three or four times in the 24 hours—discharges darkish. In the progress of

this case the pulse became, in a very marked degree, irregular; but as the fever went off it regained its regularity. The diarrhea had to be specially treated.

CASE XXXIV.—Flanagan, a girl of 20, very fine skin, and rather fat, admitted, April, 1862. Her mother states she is now 10 days ill, and she presents all the signs of typhus fever. She is heavy and stupid; pulse rapid; lips and tongue covered with thick sordes; no spots. With these there is also sharp diarrhea, to the extent of six times in the 24 hours; discharges light coloured; slight tympany and pain on pressure. What between typhus and typhoid symptoms this case proved most obstinate, and called in turn, for treatment to both head and abdomen. It yielded, however, about the 27th day; there being then signs of crisis by sweat; but not very marked. As the tongue cleaned, it remained red and glazed. The girl made a good recovery.

CASE XXXV.—Crickard, girl of 22, of full habit, took ill on Friday, April 25th, with signs of fever of a very low type. She had to be carried into hospital. Even at this early stage, being but five days ill, the skin was mottled. Next day the appearance on the chest and abdomen was very peculiar. There were a number of blotches, like stains, visible, of a very irregular shape, a bright hue, and much larger than any of the ordinary spots of fever. With those the fever had become more marked, and she complained of sore throat, which, on inspection, showed only an increase of redness. A day later still, ordinary petechiæ had appeared, and from this forward went on increasing till they reached the utmost possible degree of intensity. It is enough to say, that after a fearful struggle, lasting several days, this girl recovered. The lungs getting engaged was the cause of the danger. Through entire illness the brain remained wonderfully free.

CASE XXXVI.—M'Cormick, a woman of 24, admitted, after being one week ill of fever of the gastric type. The tongue was furred and very red; skin hot; pulse 130; eyes suffused and injected; and head much complained of; no spots visible, nor did any appear subsequently. With this state there was considerable irritability of the bowels, and slight tympany; much more pain too than is usual was present, even without pressure. The symptoms

did not yield till specific treatment was adopted. The fever ran out 21 days.

CASE XXXVII.—Convey, sailor, aged 26, admitted May, 1862; ill of fever, but not known how long. He was densely spotted, and all the spots were of the character of petechiæ; some, however, being of a darker shade than others. His tongue was very red and dry, and skin hot. Very severe diarrhea was also present for the first 36 hours; after which it moderated, but did not cease. There was also slight tympany, with pain on pressure. As the eyes were much injected, and the brain engaged—the patient being heavy and stupid—the abdominal symptoms were not interfered with for three days. But as the diarrhea still continued to the extent of four times in the 24 hours, it was then thought advisable to treat it, and five days later it had all subsided. When in this state, and all appearance of danger had passed, the spots having quite disappeared, and pulse fallen, the patient was suddenly seized with violent delirium; getting out of bed and ultimately requiring restraint. For this he was treated with tartar emetic and opium, and with very striking benefit, and he then made a very good recovery.

CASE XXXVIII.—Bellew, servant, aged 45, of tall stature, thin, admitted, May, 1862, with all the signs of fever in a very severe form. He had to be supported into hospital, and though not a week ill, was already densely spotted, and his tongue dry and brown; eyes very much injected; expression heavy. There was also very severe diarrhea which seemed to cease suddenly within 48 hours; that is, about the eighth day of the fever. From this forward the attack was as genuine typhus as it is possible to describe. The spots became of the darkest; the mind very confused, with constant rambling; and passing under him. There was great difficulty in putting out the tongue, and, late in the illness, hiccup. By the 18th day the symptoms had materially improved. The spots were gone, the tongue had expanded somewhat, and was better put out, and he took support well. His mind too was much clearer. It was evident, however, the fever had not resolved itself. The pulse had not fallen in proportion, nor the tongue cleaned, and he still remained heavy, and at times would ramble. In this state he went on till 25th day of the fever, when he died. There was no effort at crisis at any time, nor any

tympany. I was only able to examine the abdomen. The ilium had no ulceration in it; but it was very red, in distinct patches, and the more so the nearer to the cecum. In this last organ the chief lesion was found; for it was ulcerated in patches; one as large as a shilling. The ascending colon had a number of small but distinct ulcers in it. The glands were not enlarged.

CASE XXXIX.—Mr. —, pay patient, aged —, came under my care the 10th day of fever of typhus type. He was densely spotted; had a flickering and most irregular pulse, and rolled his tongue in his mouth without putting it out. There was constant movement of the lower jaw, and marked cerebral breathing. Like the last case he had had very severe diarrhea within the first week of his illness; but it had now subsided; there was no tympany. This case went from bad to worse, and died the 13th day of the fever.

CASE XL.—Mr. —, aged 41, sent for me after being 18 days ill. He was a general medical practitioner, and during these days had worked on, as he best could, at his profession. His illness began the 1st of May, after having got a severe wetting: within a day or two of which diarrhea set in, and continued, off and on, till the time of my seeing him, in spite of the use of astringents which he had used freely. I found him in his parlour, and the immediate cause of his sending was, that he had had a rush of blood from the bowels, upwards of a pint. With this he presented the usual signs of fever of the typhoid type. By keeping him in bed and treatment, he seemed to get better; especially as far as the diarrhea and bleeding went; and so matters went on till the 28th day of his illness, when, at one o'clock in the morning, he was suddenly seized with severe pain in the abdomen, and lived only 13 hours after. No doubt of it, perforation had occurred. He had no vomiting.^a

Though the details of these cases may seem to have interrupted the line of argument pursued at the beginning of the paper, to myself they appear but a continuation of it. With two points of exception they may, I believe, be taken as a fair sketch of the types of fever prevailing in Dublin within the last two, and some

^a My friend, Dr. Moore, knowing I was engaged on the subject, kindly gave me charge of some of the cases detailed.

former years. These types were the typhus, typhoid, and gastric.^a Leaving out the latter for the present, the reader will have observed the striking contrasts which these cases present; we find cases of typhus in both young and old;—of typhus without spots;—of typhoid with none, with one or two, or with an extensive crop of them;—of typhus with the brain wonderfully free;—cases of typhoid, but more numerous, the same;—of both typhus and typhoid in which the state of the tongue and parts about were identical from sordes;—many cases of either type with the chest not engaged at all, or so slightly as not to call for treatment:—instances of both types with and without tympany;—cases of either kind entirely free from hemorrhage; a freedom remarkable when compared with former years;—and lastly, the modified types of fever which the present year has disclosed.

Now let it be observed that each and all of these have been dwelt on by those who argue for the plurality of poisons, and who would separate the two types as different fevers. But where, I would ask, is such a difference as would entitle them to be so considered? Not surely in those refinements of diagnosis on which so much labour has been bestowed, and by such a number of writers. When I go to the bedside and try to make them out I find them so mixed up that it is utterly impossible—at least, it appears so to me—to separate them. And the difficulties are equally great whether we endeavour to keep the symptoms separate, and so make out two distinct fevers; or whether we strive to keep in one group the type of fever known as typhoid. This last point, I think, has not received the attention it deserves. Let any one take some half dozen cases of this type and just observe the contrasts or modifications they present. This has been already done in the cases detailed; and I think they may be appealed to as ample evidence of the point for which I argue. Nor am I alone in this statement? “*Sometimes,*” says *Louis*, “*the diarrhea and meteorism were the most prominent; at times the depression of strength, delirium, spasmodic motions of all kinds; and according as one or the other was most prominent the disease had the appearance of putrid or ataxic fever; sometimes, likewise, that of inflammatory*

^a For some months past, I observe that in London fever has prevailed much above the average. In June, 1862, the deaths have been doubled; and in one week’s return of this month, out of 82 deaths, 39 are set down to typhus; 17 to typhoid, and the remainder to what is called “fever.” It would be very desirable that we had some more accurate account of this last class. The want of such throws great obscurity over the whole; for it must have been referred to some one type of fever.

fever; in some individuals there was no delirium, or it was very slight, and, notwithstanding the most grave lesions, the calmness continued until death. Notwithstanding these different aspects the affection was constantly the same; the principal disorder did not change." So much for Louis, who is speaking of typhoid fever.—Vol. II., pp. 8, 9. Here is another extract taken from a lecture by Dr. Gairdiner of Edinburgh, which appeared in the *Lancet* of July 21st, 1860. "*Nothing then can be more variable or less characteristic than the general symptoms of this (typhoid) fever. I have seen it resolve itself in ten days with the symptoms of febricula, or of a mild remittent fever; I have seen it, on the other hand, last nearly as many weeks, and pass imperceptibly into organic disease. It mimics, in turn, not only all other fevers, but many other general or local diseases; phthisis, pneumonia, meningitis, perhaps more frequently than most others.*" It will be remembered that those two writers are strenuous advocates for the essential difference between typhus and typhoid fevers. How they could make such admissions, and still hold such opinions, I leave to others to explain. Nor would there be any difficulty in giving other extracts of a similar kind. Thus, Louis' description of the state of the tongue in typhoid fever, might literally be taken as if he were speaking of typhus. It would be unnecessary to either add or detract from it. And so of other symptoms. The extracts given, however, are enough for my present purpose. They prove conclusively that fever of the typhoid type assumes many varied aspects. One says it may take on the putrid, ataxic, or inflammatory forms. The other the form of a febricula, or remittent fever; nay, even that it mimics such diseases as pneumonia, meningitis, &c. In most of these statements I can fully concur, because they entirely accord with my own experience; and would ask, with such admissions from the opposite party, what more is wanting to settle the point? or how will writers who have seen and described but one phase of fever of the typhoid type explain them, except they adopt the views of those who consider there is but one poison, which causes all the variations met with? I confess to seeing no other solution of the difficulty.^a

But some one will say here that I have not noticed those symp-

^a In connexion with this part of the subject, I would direct attention to the two chapters in Louis' Work; one on latent typhoid affection; that is, where the local lesion was not accompanied by the usual symptoms; and the other where, with all the common symptoms, the local lesion of the intestine was wanting.

toms which are considered specially characteristic of the typhoid affection, that is diarrhœa, and the rose-coloured spots. This was purposely done; and with the object of speaking separately of the two points of exception which the fever of the last two years presented to my notice. The first of these was the very great prevalence of fever of the typhoid type. It exceeded anything I have seen in former years; as the cases detailed fully prove. And yet our city, during the same period, has been materially improved in its sewerage. Not that I have the slightest faith in bad sewerage causing typhoid more than typhus. But it looks strange that a type of fever, rare with us, should appear at a time when the specific cause of it, as many think, was being lessened. Yet such is the fact: no matter how we may explain it.

It is to the second point of exception, however, that I would more particularly ask attention, as bearing directly on the question under discussion. I mean the change of type which, within the last eight months, fever has shown in Dublin. The change at first seemed to be the gastric type; to which was shortly added diarrhœa in nearly every instance; and this latter again occurring in a large number of cases which presented all the characters of typhus; including a dense crop of petechiæ.^a Some of these cases, it will be observed, have been detailed; and I know that others met with them in much greater numbers, and with exactly the same characters; that is well marked typhus with severe diarrhœa. The case of the girl Flanagan, No. 34, is worth noting; she had neither the spots of typhus or typhoid, but she had every other symptom of the two types united; nor have I myself the slightest doubt but that Peyer's glands were affected.^b Did time permit, many others of the cases given would call for a special notice. But I must hasten on.

^a As bearing on this part of the subject, Huss's work is very specific; thus he says:—"It very often happens that epidemics, presenting at the beginning, or when at their height, all the characters peculiar to typhus, at the close have entirely assumed the form of typhoid, after the gradual development of several intermediate forms." Again:—"In many cases the symptoms appear simultaneously, so that the petechiæ and the lenticular spots may both be found copious at the same time."—"The conclusion," he adds, "I draw from this experience is, that the typhus and typhoid fever, such as they appear in the climate of the north, belong to one and the same pathological process; but that that which we call the typhus process presents several different varieties."—(See Introduction *passim*.)

Of 59 cases of typhoid fever given by Flint, rose-coloured spots were present in but 35; and in the analysis of cases of different years, they prevailed much more in some years than others. He says he can offer no explanation of this disparity.—(P. 181.)

^b One of the cases recently given by Dr. Warde (No. 3), and published in the *Medical Times and Gazette* for May, 24th, 1862, was exactly of the same character.

Of the morbid anatomy of those mixed cases of typhus and diarrhea, I regret that I got only one opportunity of making an examination; and it will have been noted that the lesion found was confined to the cecum and first part of the colon. It is specially to be observed, however, that it answered, in the most exact way, the description given by Louis of cases of typhoid fever, where there was also an affection of Peyer's glands. Nor must it be forgotten that Louis found the colon and cecum affected in a third of his cases; and, as it is admitted by all that the affection of Peyer's glands does not necessarily bear a relative proportion to the fever, it seems to me fair to conclude that the case given, No. 38, belonged to the typhoid type of fever; and so of cases 33, 37, and 39; all, it will be observed being well marked examples of typhus fever. If, however, my own experience be wanting, I am glad to be able to give that of my friend Dr. Gordon, who is attached to a large fever hospital, and who informs me that in the spring of the present year he met with ulceration of Peyer's glands in connexion with well marked cases of typhus fever; including a crop of genuine petechiæ. So that the fact may be looked on as absolutely established that the two types of fever existed in the same patient and at the same time; and in what might almost be called an epidemic form; so prevalent was it.^a Though this be the first time of the statement of such an occurrence in Great Britain or Ireland, it must not be forgotten that exactly the same has come under the notice of Huss, and is particularly dwelt on by him.

The conclusion, then, at which, after the fullest consideration of

There were no spots of any kind; whilst the symptoms generally were a mixture of typhus and typhoid; and on examination but one large patch of an ulcerated Peyer's gland was found, with an ulcer of the smallest size close to it. The same gentleman also states, that on one occasion a mother and child were admitted to hospital; the former had typhus and the latter typhoid fever. These are tell-tale cases.

An Argument advanced by Dr. Gairdiner of Edinburgh is, that because some four patients who had passed through enteric fever, were, within a few weeks, seized with typhus fever, therefore these must be distinct forms. I only wish he had seen our Dublin epidemic of 1847-48. He would then have witnessed, in numbers of cases, two, and sometimes three, distinct types of fever occurring in the same patient, and literally before they left their bed: and to account for such varieties by different poisons would clearly be a straining of any knowledge we possess of the poison of fever. When two types of fever followed each other directly, one would be very generally spotted, the other not.

^a Dr. Cronin, at present assistant in the Britain-street Hospital, informs me that in the spring of 1861, the same mixed kind of fever prevailed in the County Kilkenny; there being diarrhea, often very severe, present in almost every instance; with many cases, though not the majority, densely spotted at the same time.

this question, I have arrived is the same as that of two years since; but with still stronger convictions on the point. *I believe that the two fevers known as typhus and typhoid are the result of a single poison; and that no other hypothesis can explain so well all the difficulties of the case.* I consider, further, that those who hold for a plurality of poisons, are bound to explain the facts already given in this paper. They should tell us why the symptoms of those two affections so often run the one into the other; why the same type of fever, whether typhus or typhoid, presents such marked contrasts; why typhoid may assume the characters of putrid, ataxic, or inflammatory fevers; febricula, meningitis, &c., and still be typhoid all the time; and this, be it observed, is described by those who believe in the two distinct poisons. They will also have to answer the argument taken from analogy, and tell us if scarlatina affords the most marked contrasts, why fever should not do the same; also how it has happened that symptoms which one writer considers essential to the natural history of typhoid, are ignored or made little of by another. And, in the last place, an explanation must be given of what has occurred in Dublin this year—that is the union of typhus and typhoid in the same subject. Now one and all these points may be satisfactorily explained on the idea of the existence of but one poison. I confess, however, it appears to me impossible to explain them on the theory of two. But, if we admit two, why not more; for assuredly there are other types of fever just as distinct as typhus is from typhoid. And this leads me to notice the third type which prevailed this year in Dublin, and particularly amongst the middle ranks; I mean gastric fever. I hold that it is essential it should be distinguished from typhoid fever, with which it has the nearest connexion; were it for no other reason than that its treatment is very different. Several cases of it have been already detailed; but, except to notice it as a special type of fever, I am not about to speak of it further here. It was, I believe, to this type of fever that the cases given, which might fairly be called anomalous, are chiefly to be referred.

Before concluding I would make a few general remarks, of the most cursory kind, on the treatment of the typhoid type of fever; not that I have anything new to offer; but that the treatment adopted by some is not of the specific kind which this affection appears to me to require. We know that of late years anything of what would be called active treatment has been most materially modified, if not quite given up. Thus in Bartlett's work, which

appeared in 1847, the measures recommended included the regular antiphlogistic treatment; whilst five years later Flint speaks of much milder measures being adopted. The late Dr. Todd, of London, we know, strenuously recommended the stimulant plan; which, it must be allowed, he carried as far as any discretion would justify; and in a published lecture of the present year, Dr. Warde, of the Dreadnought Hospital, London, has advocated the leaving the disease very much to itself. Now I mention these plans, not to criticise them; but to state that each, in its turn, will be found useful; and that no physician who has fever to treat on the large scale, will bind himself to one or the other. Every single instance must be treated by itself, and symptoms must be met as they rise. If this be done, I believe the typhoid type to be the most amenable of the many forms of fevers, provided it be seen in an early stage of the disease. Speaking of it as I have generally seen it, I would say it is not a fever to be left to itself; and several of the cases which have been detailed prove this; for there was no amendment till treatment was put in force: on the contrary, some of them were going from bad to worse. When then the case calls for it, and this is to be learned from the local, as well as the general symptoms, I never hesitate to have leeches applied over the right iliac region, followed by a poultice; taking care the bites do not bleed too long. A more common plan, however, is the application of a blister to the same part: nor can I doubt the great value of such means, and believe it is not as generally used as it might be. The blister may be repeated with the best results; nor should we ever forget that the local disease with which we have to contend is very apt to be slow in yielding; that a relapse may readily occur, and when this happens the disease is rendered very much more grave than it was. Our object, in truth, is to prevent ulceration; for if this once occur the chances of recovery are materially lessened. I state this because a recent writer speaks of the disease as if ulceration must necessarily take place. I believe this is an erroneous way of considering the matter; and that we can, by treatment, anticipate, and so prevent it. "*Obsta principiis*" is all important here, and a principle never to be forgotten.

Of the internal treatment I have had no occasion to change from what was spoken of in the former paper. As an astringent I find the dilute sulphuric acid, in the proportion of one to three drachms to the eight ounce mixture, by much the best remedy. No other of the class of astringents seems to me to act at all so satisfactorily;

and it can be modified, with the greatest nicety, to the demands of each particular case. I have often seen medicines, such as chalk, gallic acid, lead and opium, unavailingly used; and then from the moment this acid was given the patient began to amend. But it is not to be used without discretion; for it may check the diarrhea too suddenly, and the chest or brain may so become engaged: hence, it is best to begin with a moderate dose, and increase if the necessity arise. The rule is that the diarrhea is to be gradually lessened; not suddenly stopped. In mild cases I find the acid infusion of roses a very suitable medicine; and, when there is pain, from two to six drops of laudanum, in each dose of the mixture, commonly answers well. The sulphuric acid, I need scarcely add, is the favourite remedy with Huss. When there are signs of irritation in the colon, and more especially when there is tenesmus, an anodyne enema acts like a charm.

Dr. Warde, to whom I have before alluded, speaks of salines as being suited to the treatment of fever of the typhoid type. Such may answer in London; but with us in Dublin they would be positively injurious. Their effects on the healthy frame are quite too powerful to suppose that they would not act equally so on the frame weakened by a disease like fever; of which the best treatment now avowedly is, what may be called, conservative. To the class of salines I would add the carbonate of ammonia, which I believe to be too indiscriminately used; and which, in my own experience, does not suit the type of fever of which I am speaking. I have known a very few doses of it bring on diarrhea; not only in this fever, but in many other diseases; and, if my memory serve me right, I have seen a similar remark made by Sir Benjamin Brodie; and would hence hold out a warning against the use of either salines or alkalies in all diseases of a lowering type.

There is a class of cases of the typhoid fever in which, without any interference, the diarrhea suddenly ceases; whilst the chest, or it may be the brain, gets as suddenly involved. All such I have found turn out most critical, and I have latterly been in the habit of keeping up, for some days, a discharge from a small blister, usually put on the chest. In this way I think I have seen very beneficial results follow. It seemed as if the poison were, in part at least, got rid of by the system; and all went smoothly afterwards. The point, I believe, is worth bearing in mind, and so is mentioned.

In the last place I would notice a point which was also spoken of

on a former occasion. Are stimulants, as a class, used too indiscriminately? I think they are. It seems a very general impression that if they are to be used, it matters little of what kind they are: hence, brandy, wine, and beef tea, are constantly spoken of as being given to the same patient. Now I do not deny that all may be required at the same time. But I do say that in numerous instances judgment is to be exercised; for most assuredly the effects are not the same; and when their different composition is considered this need not excite wonder. Thus, if we compare wine and beef tea, the former, contrary to what might at first be thought, may be given with much less risk than the latter; and I am sure I have seen cases where secondary inflammations—in the chest amongst other parts—have been lighted up by want of attention to the very point of which I speak. Though much more might be said on this subject, enough has been advanced for my present purpose.

In conclusion, I would observe, that the class of mixed cases, as they may be well called, require even more than the ordinary amount of attention. The fever becomes so heavy in many of them that the abdominal symptoms are very apt to be masked, and so may readily be overlooked. In such cases too, it may be requisite to direct our treatment at one time to the chest, or again, to the brain; and, in some of the cases given, a combined treatment had to be adopted.

ART. VIII.—*On Galvanism as a Therapeutic Agent.* By HARRY LOBB, M.R.C.S.E., &c., &c.

THANKS to the labours of the medical profession at home and abroad, galvanism, as a therapeutic agent, is at length taking its legitimate position in the science of medicine. Rescued from the ignorant and unscientific administrator, into whose hands it had almost entirely fallen, some of the most eminent men in the ranks of our profession have turned their attention to its study, and with the aid of the sister sciences, anatomy, physiology, and pathology, have elicited some most remarkable results. The late Dr. Golding Bird, a far-seeing and most intelligent physician, stated his belief that it was to galvanism the profession must look for some of its future triumphs. This opinion has been fully endorsed by a large

number of observers; the list of names of those who recommend and employ galvanism in the treatment of disease would be so great as to require far more space than I can afford for such a purpose; still, I cannot pass over in silence the name of one who has done more than any man in this country to obtain for galvanism the recognition of the profession and the public as a therapeutic agent of great value in many forms of disease. I speak of Sir Charles Locock, to whom I am myself indebted for much kindly support and aid in the prosecution of my investigations; and who, from his eminent position in the profession, and his well-known integrity, is enabled, by the weight of his great name, at once to stifle the clamour, usually arising against the employment of any novel method of treatment however valuable it may eventually prove to be.

Galvanism, as a therapeutic agent, has passed safely through this primary stage of neglect, and is now being earnestly studied by numerous observers of first-rate ability; and the profession are naturally desirous to become acquainted with the results of the practice of those who have devoted their time and attention to the subject. The following cases I have selected from the practice of a public institution, established recently in London, for the purpose of testing, in a larger field than can be obtained in private, the real value of galvanism in the treatment of disease; and I shall endeavour to explain the practical working of the apparatus in each case, as by this means those who are ignorant of the subject can more readily carry out the treatment should they desire to test its value; and I may at once state that the observations made by Dr. Golding Bird in the electrical ward he established in Guy's Hospital under his own special supervision, since followed out by Dr. Gull, namely, that rheumatic paralysis yielded most readily and in a remarkable manner to the electrical stimulus, has been most fully borne out in my own practice.

To commence, then, with a case of muscular rheumatic paralysis, limited to the fore arm, and recently induced.

No. 61.—George Jones, aged 63, surgeon, 14, Polygon-street, St. Pancras, rheumatic paralysis of the left lower arm, with fixed claw-like contraction of the fingers, of 10 days' duration, brought on by exposure to cold and wet; the skin of the arm was peculiarly dry and scaly, and the muscles, both flexors and extensors, hard and contracted.

In rheumatic paralysis the custom is always first to excite the skin with a sharp current, using a dry flat metallic conductor; the

positive pole of a 120 element galvanic battery is applied, by means of a wet sponge, upon the skin at the bend of the arm, and the operator, taking the flat metallic conductor, attached to the negative pole of the battery, in his hand, applies it sharply over the skin of the arm, front and back, for five minutes, producing redness of the surface, with sharp stinging pain; upon retaining the conductor upon the belly of a muscle, for a few seconds, trembling and twitching in the muscle shortly commences; this shows that the paralysis will rapidly yield; this was done over all the principal muscles for a few seconds each; the conductor was then changed to a moist one, and each muscle was stimulated to contraction. The whole operation took 12 minutes, at the end of which time the patient could open and close the hand freely, without any pain. On attending two days afterwards, he had had no relapse, and was discharged cured.

No. 58.—Henry Hall, aged 45, Duke-street, Portland-place, two months previously had been laid up with rheumatic fever, leaving behind rheumatic paralysis of the deltoid, and muscles of the shoulder of the left arm; for this he was recommended by Mr. Kelly, surgeon, of Fetter-lane, to attend the hospital. The treatment was the same as in the last case; and after two operations of a quarter of an hour each, he was discharged cured.

No. 38.—William Pratt, aged 54, bookbinder, 5, Buckingham-street, Pimlico, rheumatic paralysis of the right leg; great stiffness in walking, so that the leg dragged, the foot being fixed. Two winters ago he had stood constantly in a draught of cold air at work, and this had gradually induced paralysis of the limb with coldness and numbness; he had been in this state for 20 months; he had been treated by Dr. Griffiths, of the Belgrave-road, who had succeeded, in a great measure, in removing the numbness, but not the paralysis, he therefore recommended Pratt to attend the hospital. The treatment was the same as in the former cases. After the first operation the foot felt warm and comfortable, and loosened; and after six operations the paralysis was quite cured.

These three cases will be sufficient to prove the immense power galvanism, where scientifically applied, has in curing rheumatic paralysis. As far as my experience goes, I have never yet met with a case which has not completely and rapidly yielded to galvanism; the current restores the circulation in the part, causing warmth and redness where previously there had been palor and cold; the muscles, also, which were stiff and hard after contraction,

become soft and elastic to the touch. I could relate many more cases, some of long standing; but, as the treatment is the same in all, it is useless to multiply examples, especially as I am desirous only to refer to those treated at a public institution. The following cases are uncommon, but from their extreme interest are well worthy of mention. They contrast with the previous ones in the time required to effect a cure.

No. 20.—Catherine Lee, aged two years, 6, Great Crown-street, St. James', four months previously, whilst teething, lost, during the night, the entire use of the right upper arm, followed by gradual and complete wasting of the deltoid, biceps, and triceps; the arm hung by the side powerless; there was no wasting of the muscles of the lower arm, and their movements were but little less active than those of the left arm; the head of the humerus, by the loss of the tonicity of the deltoid, had fallen away from the scapula, leaving an indentation in which the finger might be laid; the tissues around the humerus had so wasted that there was little besides the skin to cover it. Upon applying the interrupted current of galvanism there was not the faintest contraction, there being no muscle to contract. This was a serious state of things, but having had cases previously that had done well, I did not despair. The treatment consisted in the application of a galvanic chain from the spine, winding round the atrophied muscles to the bend of the arm; the positive pole upon the spine, the negative on the arm; this increases the circulation in the part, and tends to stimulate nutrition. Thrice weekly the child (a remarkably healthy well-grown one) attended to have an interrupted galvanic current applied to the arm to stimulate to contraction any muscular fibres there might be remaining, to increase nutrition, and to take advantage of any fibres generated by the chain. Some weeks elapsed before any change was observed, when it was considered that the head of the humerus was not quite so far from the socket, and that the arm was filling out; there was, however, no muscular contraction. At the end of two months there were some faint contractions in the triceps, and the arm was much fuller and firmer; the improvement was slow, but steady; and at the present time, nine months after the first operation, complete muscular contractility, under the galvanic stimulus, has been recovered in all the muscles; voluntary power in the triceps and biceps has returned, but as yet there is no voluntary power of contraction in the deltoid.

I have little doubt but that the child will entirely recover the

use of the arm; the probable time is from two to three months; if so, the case may be well considered a triumph to the science of medicine, or rather medical galvanism.

No. 32.—Master Richard Bennett, aged six years and a-half, 8, Gloucester-crescent, Regent's-park, suffered, some three years ago, from low fever, followed by partial atrophy and paralysis of the left leg. From the knee to the heel the leg is nearly an inch shorter than the right, the gastrocnemius has entirely disappeared, and under galvanism there is not the least contraction in it. There is a great hollow above the heel and flaccidity of the tendo-Achillis; the foot is mis-shaped and atrophied; the muscles in front of the leg have shrunk, and do not actively contract under galvanism—probably from want of use, as he has worn an orthopedic instrument which has enabled him to walk, but has, at the same time, weakened those muscles which were healthy, so that he walks entirely from the upper leg; the thigh is smaller than the opposite one, but is not atrophied. This case somewhat resembles the last, although the atrophy does not affect so many muscles, and there is, consequently, less paralysis. The walk is clumsy, and he has not the slightest power of rising on the toes; still he can walk after a fashion.

Treatment.—A galvanic chain from the spine to the foot, to increase circulation; the debilitated muscles stimulated, by the interrupted galvanic current, to contraction, so as to give them tone, that the orthopedic apparatus may be discontinued; this was done, and the machine was dispensed with after a month's treatment. He could, at the end of that time, walk much better, the debilitated muscles were much stronger, the foot more shapely, the thigh fuller and firmer, and he was altogether much improved. Now was the time to commence with the gastrocnemius, and I find that when the atrophy is extreme, the continuous galvanic current is the most useful, with a wet positive pole; and, if the patient can bear it, a dry negative metal conductor over the atrophied muscles, if not, a wet one. After several applications, a trembling was observed beneath the skin: this was the first faint contraction of the returning muscular fibres. This gradually increased in force until the tendon was affected by it, and the heel drawn up. This, however, took time, and at the present moment, five months after the commencement of the treatment, much remains to be done. I have no doubt, however, of eventual and complete recovery. The case, except under treatment by galvanism, would terminate in confirmed atrophy and paralysis; the leg, from the knee downwards, would cease

to increase in the same ratio as the other, and, upon his arriving at man's estate, the left leg would be probably three or four inches shorter than the right. These cases of paralysis and atrophy, occurring during teething, and as a sequela of fever, although rare, are far more common than are generally supposed. Since having turned my attention to the treatment of paralysis, I have met with a large number, and, although taking a considerable time to cure, still my experience leads me to affirm, that they are decidedly curable, and that if the patient will only give the time and attention, galvanism will do all that is necessary.

The next group are the neuralgiæ, generally yielding very rapidly to the continuous galvanic current. Of these there have been many examples, but I shall pass them all over with one exception, as it is remarkably instructive :—

No. 10.—Ann Wilson, aged 50, 11, Caledonia Terrace, King's Cross, has suffered with pain along the course of the sciatic nerve, for the last twelve months, sometimes bad enough to cause great difficulty in walking. The pain is chiefly in the hip and about the foot, and is sometimes very acute; she is never entirely free from it; otherwise she is quite well. I recommended her to wear a galvanic chain (direct current), and to have the skin over the painful parts stimulated with the dry conductor (direct current). This gave but very slight and evanescent relief, but was persisted with for some weeks. I then thought of trying the inverse current, seldom, although occasionally, beneficial in neuralgia; the poles of the chain were changed, also the battery current. This gave immediate relief, and after five applications she was quite cured, and has had no return since, now more than two months. I have noticed now in many cases, that in all uterine affections, where that organ or any of its appendages are primarily affected, that the inverse current is the one required and not the direct, which is seldom of any advantage. I therefore conclude that this case of sciatica was the result of some uterine affection, as the arrest of the menses, or ovarian congestion. I have already recorded, in the *Lancet*, a case of most severe neuralgia of the face, cured by the continuous galvanic current, inducing the menstrual flux, which had ceased for some time.

And now we must enter upon the more severe forms of paralysis, of which we have had some very bad cases—many that have been under every form of treatment; in fact the majority of cases attend the Hospital as a last resource, and the more easily curable affections

do not come at all, so that the patients are a long time under treatment.

No. 42.—James Mallison, aged 53, 7, James-street, Blackfriars Road, is a blacksmith, has been gradually losing the use of his hands, and upon application had entirely done so. The hands are dropped, with complete paralysis of the extensors, which are completely atrophied on the right side, and almost completely on the left. There is not the faintest contraction under the highest power of the galvanic current; the hands and arms are thin, and of a purple colour. There can be little doubt that the paralysis is the result of poisoning by lead, as he had previously suffered from colic. There is, however, no history of any introduction of lead into the system. The gums are in a very bad state, also the teeth; complexion blue and pallid.

Treatment.—To wear a galvanic chain round the arms, from the elbow to the wrist (direct current). Three times a week to have a powerful continuous current passed through the arms, a dry metallic conductor attached to the negative pole, passing over the skin covering the atrophied muscles. By degrees faint contractions might be discovered under the skin, more particularly in the left arm, and the arms began to increase in size. At the present time, three months after commencing the treatment, he has quite recovered the use of his hands, and has returned to his work.

Of the number of cases applying for relief at the Hospital, there have been very few refused as being unadapted for treatment by galvanism, but there have been many that have yielded but slowly; of these, I select the following as being the one that has taken the most time with the least result:—

No. 12.—Henry Stanard, aged 48, Sherborne-street, Islington, hemiplegia, three years' duration. The paralysis came on gradually, with a series of fits, not of a very severe nature, and only partial loss of consciousness; his memory is a good deal affected, and his speech is a little thick; he has what he calls his attacks, even now occasionally; he describes them as a giddy feeling, lasting but a short time, but incapacitating him from any motion or use of the will during the time. I have never seen him in one. On applying to the hospital last July, there was stiffness in the leg, with some ability of walking. The arm, the right, was, however, entirely powerless, with contraction of the pectorales, biceps, and flexors of the hand, so that the arm could not be straightened, or the hand opened, even by using great force; he had no power in it at all.

The treatment commenced with the use of the direct continuous current to the paralyzed muscles. At that time I was not practically aware of the power of the inverse current to remove the contraction of muscles, the result of disease within the brain, the treatment with the direct continuous current was persevered in for six months, with benefit, sufficient to satisfy the patient he was deriving advantage—but not of a very marked nature—during this time I had discovered the virtue of the inverse current in overcoming muscular contractions—consequently in February I applied the inverse continuous current to Stanard—by placing the wet conductor, attached to the positive pole, upon the bellies of the contracted muscles, the wet conductor of the negative pole over the left temple, and in twenty minutes the arm became perfectly flaccid, the previously contracted muscles quite soft, the hand could now be opened without any resistance; he had, as yet, no voluntary power in the arm to extend it, or open the hand. On each visit there was less contraction, and now, after being galvanized, he can stretch out the arm fully, and can open the hand. I look upon the use of the inverse continuous galvanic current as giving to therapeutics a vast power hitherto unthought of, and likely to be almost as useful as the direct continuous galvanic current, the one now more generally applied. To the physiologist these facts cannot but be of the greatest interest. I believe that the wonderful difference in the effect of the direct and inverse galvanic current has not at all been recognised by authors, and as it is of the greatest interest to the physiologist as well as the physician, I should be only too glad if these remarks should excite in some inquiring mind a desire to become better acquainted with it; should this be the case I shall be most glad to demonstrate to any inquirer, who may wish it, the experiments I have instituted for the purpose.

Now is the right time for investigators to enter upon the study of galvanism as a therapeutic agent, as most of the real difficulties that had impeded the path of progress have been swept away by the unremitting labours of those who have gone before. The apparatus is now compact, portable, cleanly, easily excited and applied. Electro-physiology has been ardently studied by Matteucci, Dubois Reymond, and Radcliffe. Electro-therapeutics, by Remak, Becquerel, Duchenne, and numerous others, so that the field, although not entirely fallow, is by no means occupied, and is ready to yield a rich harvest to the ardent and faithful student.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Clinical Treatise on Diseases of the Liver. By DR. FRIED. THEOD. FRERICHs, Professor of Clinical Medicine in the University of Berlin, &c. Translated for the New Sydenham Society, by CHAS. MURCHISON, M.D. Vol. II. pp. 584. London: 1861.

WE gave an extended notice of this work, when the first volume was issued by the New Sydenham Society, and expressed our sense of the great value of the author's researches. The completion of the treatise, simultaneously with its publication in Germany, has placed in the hands of physicians a monograph which must, for some time to come, occupy an important place in the library of the pathological student. It is replete with learning and exact clinical observation. Every disease is illustrated by cases, drawn up in the most admirable manner, while the methodical distribution of the whole subject renders the perusal of the book an agreeable labour.

The first chapter is occupied with the discussion of inflammation, its various forms and consequences. Cirrhosis is here treated of under the division, "Diffuse Hepatitis of the Chronic Interstitial Form." It is insisted that there is an alveolar matrix of amorphous connective substance throughout the liver, in the meshes of which lie the hepatic cells, whilst the capillaries are dispersed throughout the walls. Much doubt has been recently thrown upon the existence of this frame-work, and upon this particular relation of the cells to such a tissue. The real nature of cirrhosis has been so closely bound up by most authors with the supposed areolar frame-work, that it is unfortunate for the clear elucidation of its pathology, that the general anatomy of the organ is still *sub judice*. The matrix, according to our author, may become hypertrophied, and

the further this hypertrophy proceeds, the more is the consistence of the organ increased. Such increased consistence constitutes the initial stage of cirrhotic degeneration. In the advanced form of the disease, the organ is reduced in size, and particularly the left lobe; semi-globular knobs, more or less prominent, sometimes of a uniform, and, at other times, of an unequal size and form, are thickly scattered over the surface. The serous envelope is almost always thickened and coriaceous, and of a greyish white colour, especially in the depressions between the granulations. On section the organ presents a cartilaginous hardness and coriaceous tenacity, and we observe at one place, narrow, and, at another, broad lines of connective tissue, of a grey colour, surrounding the granulations, and sending streak-like processes into their interior. These granulations are, in most cases, dark or pale yellow, rarely greenish, brown, or reddish. In this stage the hepatic cells are in great part destroyed, their remains constituting the small masses of brownish pigment scattered among the filaments of connective tissue. Another portion of them *constitutes the substance of the granulations*, and may remain for a long period intact. The cells may become filled with fat, pigment of various sorts (hence the name "cirrhosis"), or with lardaceous matter. When this latter variety exists, the liver, even in an advanced stage of degeneration, exceeds its natural size. The gradual increase of the bands of connective tissue causes the compression and destruction of the glandular elements. In proportion to the destruction of the glandular substance the capillaries of the portal system become obliterated, while the trunk and larger branches occasionally become enlarged; new channels between the hepatic and portal veins become developed, though insufficient for the transmission of the blood. The hepatic artery becomes enlarged, and its capillary network is more extensive than in the healthy state. The capillaries of the hepatic veins, on the other hand, are gradually destroyed. The newly-formed connective tissue exercises a destructive influence on the origin of the bile ducts at the periphery of the lobules. Frerichs shows how the granulations of cirrhosis differ from those produced by the fatty degeneration, by hyperemia due to cardiac disease, by adhesive inflammation of the portal veins, &c.; and, finally refers the disease to a chronic interstitial hepatitis. The author alludes to the case, reported by F. Weber, of a child born dead, in whom the destructive marks of hepatic cirrhosis existed. How such a malady arose during intra-uterine life, may well be termed a pathological puzzle, and

demonstrates that imbibition of alcohol is not a necessary antecedent to this change.

In the clinical history of cirrhosis, the author lays great stress on the functional derangements which spring from the granular induration, as the local examination of the hepatic region rarely furnishes adequate data for a diagnosis. In a clinical sense, the disease may be termed an "obstructio hepatis," as it was regarded by the ancients. Among the collateral channels for conveying the blood direct to the heart, without passing through the liver, Frerichs alludes to the "accessory branches of the portal vein, described M. Sappey, which exist on the under surface of the diaphragm, and upon the inner surface of the epigastric portion of the abdominal wall, and which pass to the liver between the folds of the falciform ligament."

The enlargement of these vessels is stated to be of the utmost importance in cirrhotic degeneration. In two cases Sappey found the vein which accompanies the ligamentum teres distended to the size of the little finger. Hemorrhoidal varices were not observed by the author to be frequent, contrary to the notion prevalent in this country.

Out of 36 cases, the spleen was enlarged in 18 only; while ascites occurred in 24, or in exactly two-thirds. The stomach was in a state of catarrhal tumefaction in 26 of the cases; hemorrhagic erosions and cicatrices in six.

In reference to diagnosis, the author judiciously remarks, that "in practice it is by no means always an easy matter to diagnose cirrhosis of the liver with certainty; especially when, as is usually the case, we have only an opportunity of observing the disease at one stage of its progress. The facts upon which our diagnosis must rest, are the following:—Persistent derangement of the digestion, with no obvious organic disease of the stomach, ascites, tumefaction of the spleen, diminution of the liver, increasing paleness of the feces, cachexia." The greatest difficulty lies in the discrimination from obstruction of the vessels, as in pylophlebitis, inflammation of the hepatic veins; but, in these cases, as the author remarks,—the development of the symptoms of obstruction is usually more rapid than in cirrhosis

The treatment of the early stage of cirrhosis resolves itself into mercurial inunction, warm cataplasms to the right hypochondrium, and leeches to the hepatic region and anus. Internally, tamarinds and *triticum repens* are recommended, and certain mineral springs.

At a later stage, bitter infusions and extracts are advised; and the choleate of soda, dissolved in infusion of rhubarb, is said to operate well in regulating the intestinal digestion. Should the advent of acholia be indicated by the supervention of severe nervous symptoms, "all that remains to be done is to render death as easy as possible."

Abscess is treated of, in the next section, under the head of "Circumscribed Inflammation of the Liver." No portion of the book betrays so little research, either literary or clinical, as this chapter. It is obvious that the author's own experience of the disease has been very scanty—like that of most other practitioners in temperate climates. He declares that he is "far from participating in the opinion of Budd, according to whom, almost all cases of hepatic abscess, which are not due to external violence, may be referred to purulent infection of the roots of the portal vein, resulting from ulceration of the mucous membrane of the stomach, intestines, or bile-ducts." We are convinced that the able English physician took too restricted a view of the relation between hepatic abscess and disorder of the mucous membrane; and the acute arguments of Frerichs altogether concur with the deductions suggested by our own experience on this point.

There is a very good historical account of "hepatitis syphilitica" in the next section, and the anatomical details seem to us very satisfactory. No further scepticism should exist in the minds of pathologists, upon the relationship of syphilis, to certain peculiar conditions of the liver, allied, for the most part, to those lesions which occur in the tertiary stage of the disorder. The following is the author's anatomical description of syphilitic hepatitis:—

"The syphilitic process in the liver manifests itself in three different forms. 1. As simple interstitial hepatitis and perihepatitis; 2, as hepatitis gummosa; and 3, as waxy, amyloid or lardaceous degeneration of the liver. All three forms may be found in the same liver or may exist independently. The last of the forms, which is also produced by other cachectic conditions of the system, will be considered separately hereafter; at present we shall merely refer to the two inflammatory forms in the bodies of individuals who have suffered from constitutional syphilis, when depressions, like cicatrices, of a folded or radiated form, are often found upon the outer surface of the liver, the capsule of which is smooth or granular, and is usually thickened and firmly adherent to the neighbouring organs, more particularly to the diaphragm, and in rarer instances, to the colon and stomach. These depressions are of most

frequent occurrence on the convex, but are also met with on the concave surface; they are sometimes solitary, and at other times so numerous as to make the liver present an irregularly lobulated form; they are rarely observed in the substance of the hepatic tissue without reaching the external surface. On closer examination, they are found to consist of fibrous tissue, extending from the thickened capsule more or less deeply into the interior of the gland, the secreting tissue of which is atrophied. In the second form of hepatitis syphilitica (hepatitis gummosa) the tissue of the cicatrices just described is seen to contain whitish or yellowish nodules of a rounded form and dried appearance, which usually vary in size from a linseed to a bean, but may be as large as a walnut."

There are still other forms of syphilitic hepatitis, where the development of areolar tissue is widely extended, and gives rise to simple or granular induration. These are classed by the author as cases of syphilitic cirrhosis. The symptoms of the syphilitic forms of hepatitis are by no means striking; pain is frequently absent—and jaundice very rarely makes its appearance—on the whole, however interesting pathologically, the clinical value of the diagnosis of this phase of syphilis is insignificant. We are, indeed, only justified in assuming its presence when other manifest indications of syphilis exist.

The chapters on the "Lardaceous Liver," "Hydatids," and "Cancer," will well reward attentive perusal. They are followed by a highly important section on diseases of the blood-vessels of the liver. We pass over the division on the hepatic artery and veins, and wish to draw specially the notice of our readers to that which refers to the vena porta.

Coagula of blood in the portal vein, and inflammation of an adhesive character of its coats, are attended with the most serious results. Infarctions of this vein have long been familiar to physicians, but various theories have existed as to their precise etiology. "Modern observations have determined that the majority of blood-coagula in the portal vein occur independently of any inflammation of the venous wall; that the wall of the vessel frequently becomes inflamed secondarily; and that inflammation of the vein constitutes the starting point of the morbid process in a comparatively small number of cases." Coagula of blood are developed in the portal vein from weakened force of the circulation, as in marasmus—from a local disturbance of the circulation of the blood, resulting from those diseases of liver that induce destruction of numerous capillaries, or constriction of the branches of the portal vein—or from

compression of the vessel below the liver by contractile connective tissue. The process of obstruction is not usually indicated by local symptoms. Inflammation of the venous wall is rarely so acute as to produce pain. The author gives the following as the clinical history of the disease in most cases:—

“After a long continuance of the symptoms characteristic of those affections which lead to diseases of the portal vein, such as cirrhosis, chronic atrophy, cancer of the liver, chronic peritonitis, and cancer of the stomach, or of the other abdominal organs, the signs of extensive obstruction in the region of the body, in which the roots of the portal vein take their origin, suddenly make their appearance; ascites is developed, which, in a few days, attains an extraordinary amount, and which immediately returns after the performance of paracentesis; the superficial veins of the abdominal parietes enlarge and extend in the form of thick cords from the abdomen, over the lower part of the thorax, towards the axillæ; at the same time the spleen increases in size; diarrhea supervenes of a watery, or often likewise of a bloody character, and not unfrequently it is accompanied by vomiting; the urine becomes unusually scanty and dense; the patients decline rapidly and present a pale cachectic appearance; the feet become œdematous, &c.

Ascites occurs still more frequently in thrombosis of the portal vein than in cirrhosis. Out of 28 cases analyzed by Frerichs it was absent in three only. Both enlargement of the spleen and ascites were absent in a man observed by him; but here there was profuse hemorrhage from the stomach and bowels, which, doubtless, compensated for the usual serous transudation. In this case there was complete occlusion of the trunk and branches of the portal vein. The prognosis of thrombosis is, of course, fatal.

Not less formidable is the other form of inflammation of the vein, attended with suppuration, and described by the author under the head “*Pylophlebitis suppurativa*.” Here the coats of the vein become altered, and the thrombus in its interior undergoes destruction at an early period. It is almost invariably a consecutive lesion, resulting from suppurative processes in the organs in which the roots of the portal vein originate, or through which the vessel takes its course. The treatment of such cases resolves itself into what Bree calls, “a melancholy contemplation of the approach of death.”

The whole treatise is of the highest merit, and ought to be placed on the library shelves of every one who desires to be on the level of current pathology.

Handbuch der Lehre von den Knochenbrüchen. Von DR. E. GURLT, Privat Docenten der Chirurgie an der Königlichen Universität zu Berlin. Erster oder allgemeiner Theil; mit zahlreichen in den Text eingedruckten Holzschnitten, fast ohne ausnahme nach original—Zeichnungen des verfassers. Berlin: Hirsch. 1862. pp. 800.

Treatise on Fractures. By DR. E. GURLT, Lecturer on Surgery in the Royal University of Berlin. First part, with numerous woodcuts, almost without exception from original drawings made by the author. Hirsch, publisher. Berlin : 1862. 800 pages.

THIS work, the first part of which only is before us, in the 800 pages which constitute the present volume, will, when completed, form one of those voluminous compilations which give evidence of that extraordinary toil, labour, and care in accumulating all that is known on the subject, for which the Germans are so justly celebrated in all departments of literature. In this, the first part of his Treatise, Dr. Gurlt confines himself to general considerations as regards fractures; and, in collecting materials for his work, he appears to have spared no pains. Not only has he thoroughly investigated the literature of the subject, but he has literally ransacked the museums of Germany and the British Islands, and, by personal inspection of the preparations, thoroughly qualified himself to accomplish the task he has undertaken. The value of the book is greatly enhanced by the very numerous woodcuts, executed, almost without exception, from drawings taken by the author himself from preparations in the many museums which he has visited. Very many of the pathological treasures of the museums of Berlin, Breslau, Halle, Jena, Marburg, Giessen, Würzburg, Brunswick, Frankfort, Dresden and Erlangen are thus, practically speaking, brought before the eye of the reader; while in our own country, the museums of the Royal College of Surgeons of England, of Bartholomew's Hospital, of Guy's Hospital, of the College of Surgeons of Edinburgh, of the University of Edinburgh, of the Royal College of Surgeons of Ireland, and of the Richmond Hospital, have been in a similar manner pressed into the service.

The work opens with a bibliographical record of the works hitherto published on the subject of fractures in general; then follows a chapter in which the general statistics of fracture, as

regards the relative frequency of its occurrence in different bones; the relations of fractures to sex, age, season, &c., are fully discussed. The author, however, enters at much greater length on the consideration of the next topic, viz., the general classification of fractures; and, in dealing with this subject, he seems to be carried into some of those refinements of classification which, we fancy, will hardly be appreciated by the practical cast of mind of the majority of British readers. Fractures are arranged by Dr. Gurlt under ten distinct heads: 1st. Partial or incomplete fracture (infracion or fissure of bone). 2nd. Splintering of a small fragment (*fracture esquilleuse* or *par arrachement* of French writers). 3rd. Transverse fracture. 4th. Oblique fracture. 5th. Longitudinal fracture, in which the bone is cleft or split. 6th. Multiple fracture, in which the bone is broken in more places than one, or where the fragments are tolerably large. 7th. Comminuted fracture, in which the bone is smashed into many small fragments. 8th. Complicated fracture (*complicirte Knochenbruch*), under which the author includes the two classes of fractures (in our opinion very aptly considered as distinct by British surgeons), viz., compound and complicated fracture. 9th. Divers fractures, occurring at the same time, in various bones of the skeleton. 10th. Separation by fracture, through the line of the epiphysis.

There does not appear to us any sufficient reason, at least so far as practice is concerned, to set multiple fractures and comminuted fractures each in a distinct category; while still, viewing the subject in a practical light, there are the best grounds for separating the compound fracture of British authors (*i. e.* that variety accompanied with external wound), from that ordinarily known as complicated fracture, in which arteries, nerves, &c., may be wounded, or with which disease or dislocation co-exists.

The author, in speaking of each form of fracture according to the classification just stated, does so with system and clearness, and succeeds in placing before his reader an account at least of the greater part, if not all, that is known on the subject; each form, in fact, is treated of almost as if it were a distinct essay or an article in a cyclopedia. Thus, to give an example, the author proceeds in speaking of partial fracture:

“*Incomplete Fracture.*—As an incomplete fracture, that kind only is meant in which the continuity of the bone is in part destroyed, while those in which there is complete solution of continuity will be placed among complete fractures. According to this definition, I do not (as

would occur under the nomenclature of Malgaigne, '*fracture esquilleuse*') place in this category the splintering off of small portions of bone, from which the solidity of the shaft receives no injury: these I consider as belonging to the group of complete fractures, and, under certain circumstances, to bone wounds. To the latter class I also regard as belonging, perforations of bones, which were placed by Malgaigne among incomplete fractures. There remain, therefore, but two forms of incomplete fractures which are anatomically distinct from one another:—1. Partial fracture, or *infractio*; 2. *Fissure*, which in the following section shall be considered at sufficient length to have done with it once for all.

"A.—*Partial Fracture, Infractio (Einknickung)*.—*Fractura incompleta s. imperfecta, infractio*.—Fracture incomplète; courbure, flexion accidentelle, traumatique; incurvation instantanée;—Partial incomplete fracture; curvature without fracture; bent bone.

"Thore. mem.: sur la courbure accidentelle et la Fracture incomplète des os longs chez les enfants, in *Archives générales de med*: 1844 and 1852.—P. A. A. Salmon, in *La Clinique des Hopitaux des Enfants*, 1843 and 1844.—Des solutions de continuité traumatiques des os dans le jeune age. Thèse de Paris, 1845.

"Infractions are those breaches of continuity in a bone which engage only a part of its thickness, and are generally accompanied with bending or crushing of the bone at the seat of fracture. From many allusions in their writing it is clear that infractions were not unknown to the surgeons of the ancients and those of the middle ages, at least, as taking place in particular bones—as the ribs, the cranium, the forearm, and leg, in young individuals: yet their existence was totally denied by some more modern surgeons (Boyer for example), until in more recent times such was unequivocally proved to be the case by anatomical research. More precise historical details may be seen in Thore's first memoir.

"*Anatomically* infractio of the long bones of the extremities can indeed be discriminated from the mere traumatic or accidental bending, the occurrence of which is proved beyond doubt by the experiments on the dead subject, afterwards to be alluded to; but, *clinically*, such a disunion is not possible, &c."

Then follows a disquisition, too long for our space to admit of its insertion, on partial fractures of the long bones in children; the experiments made on this subject, both on the dead subject and on animals, by Thore, Malgaigne, Salmon, Haller, Meding, and Dr. Gurlt, himself, are briefly cited; the etiology, diagnosis, prognosis, and treatment are discussed; cases of partial fracture are quoted; (among others, those published in the volume of this journal for 1832, by Dr. John Hart, do not, we are happy to

observe, escape the notice of the indefatigable author). A second section is given to the partial fractures of the long bones of adults; here the author does not make it quite clear whether he wishes to regard fractures, in which one fragment is forcibly driven into the other (impacted fracture), as one form of partial fracture occurring in adults. He alludes, it is true, in a note, to the remarkable case of Alicia Sherlock, published by Mr. Adams in the 6th volume of this journal, page 205, as one of a *united* extra capsular fracture of the neck of the femur, with wedging in (*Einkeilung*) of the neck; although immediately after he states that Professor R. W. Smith had, by boiling this preparation for a couple of hours, resolved it into three distinct portions—the shaft, the cervix, and the trochanter.

A third section, on fissure of bone, concludes the author's remarks on partial fracture.

Cases of this variety of partial fracture are also collected, of which, perhaps, the most remarkable is that of which a dissection was made by R. Frorick, and in which the humerus of a boy was cleft, from the greater tuberosity right down the middle of the shaft to within a couple of inches of the lower extremity, yet without complete separation of any fragment, or any solution of continuity across the shaft.

We give the foregoing sketch of Dr. Gurlt's observations on partial fracture, as a specimen of the method he has adopted in framing his whole work; each topic is discussed somewhat after this fashion, and with a degree of fulness which is indeed conclusive evidence as to the learning and amazing industry of the author.

In his fourth, fifth, sixth, and seventh chapters, Dr. Gurlt deals with the general symptoms and diagnosis, etiology, progress of the process of healing, and the prognosis of fractures in general. In these chapters he adds but little to what is, for the most part, tolerably familiarly known on the subject. It is on his eighth chapter, on the general treatment of fractures, that the author seems to have bestowed most pains; his observations on the transport of patients suffering from fractures, the removal of their clothes, &c., and of fracture beds, and other appliances for the comfort of the sufferers, are excellent and eminently practical. Nearly sixty pages are devoted to descriptions of various kinds and modes of bandaging, in which the details given as to the various modes hitherto devised for casing fractured limbs in hard or immovable bandages are in the highest degree interesting.

First comes the albuminized bandage of Rognetta, which was for a time extensively used by Hippolyte Larrey, and Bérard: in this variety the hardening material is a compound of white of egg, sugar of lead, and camphorated spirit. Bérard, when he says that in the application of this form of bandage many eggs are necessary, seems to state the truth, for, according to his own account, in one case of simple fracture of the ulna, forty eggs, four ounces of sugar of lead, and a proportionate quantity of camphorated spirit, were consumed.

The starch bandage, and the dextrine bandage, recommended and used by Velpeau (*Bulletin de Therapeutique*, 1838), are each treated of separately and at considerable length. It does not appear, however, that any remarkable difference exists, either in the mode of application or in the general usefulness of those modes of treatment. The chief merit of the dextrine bandage is, that as the hardening material is composed of dextrine (100 parts), camphorated spirit (60 parts), and water (50 parts), it dries and becomes firm more quickly than when starch made with water only is used. The gypsum, or plaster of Paris bandage, Dr. Gurlt approves of very highly. This bandage was first proposed by Mathysen of Haarlem, and has since undergone some modifications as to details of application. There is no doubt that it is an admirable mode of encasing a simple fracture in a close-fitting, rigid, immovable splint: and thereby enabling the patient to move about at an early date after the accident without fear of displacement occurring. Some persons recommend dusting the bandages previous to application with finely levigated plaster of Paris, and afterwards moistening the whole, so as to allow the plaster to set. But a more satisfactory method is to smear the bandages, in the first instance, with plaster of Paris mixed with water to about the consistency of cream; indeed, small pieces of bandage, after the fashion of Scultetus' bandage, laid on separately after having been previously immersed in the "*puree*" of plaster, is the most convenient of all modes of applying this form of splint-bandage.

The author next considers the mode of treating fractures by surrounding the entire limb with plaster of Paris, which he allowed to set as though a cast of the part were about to be taken. The parts were thus, for a time, rigidly fixed. This mode of managing fractures was first systematically put forward, we believe, by Bauch, in his *Dissertatio de gypso Liquefacto ad Fracturas ossium curandas adhibenda*, 1838. It has since then been recommended by Nuttray

and Richter, who speak highly of its use in practice. According to an account—Eaton in the *Medical Commentaries*, 1795—it would appear that this mode of treating broken bones had been known and practised by the oriental nations in former times. W. Eaton, in his *Survey of the Turkish Empire*, London, 1798, mentions having found this treatment for fractures in the eastern provinces of the Ottoman Empire, and among the Arabs and Persians. In the *Lancet*, August, 1834, and in the *Gazette Médicale de Paris*, for the same year, it is stated by Browne that Mr. Kirby, of this city, had already, ten years previous to that date, adopted with success the plaster of Paris treatment, in the case of a physician who was the subject of a fracture of the leg, which, at the end of six weeks, was still ununited in consequence of the restlessness of the patient; it was consolidated after six weeks of this treatment, confirming the statement so strongly made by Mr. Syme, that perfect immobility is the best treatment for ununited fracture.

The treatment of compound fractures forms the concluding portion of this chapter, while the following one (chapter 9), is devoted to the more grave complications of fracture, such as extravasation of blood, false traumatic aneurism, hemorrhage, spontaneous traumatic emphysema, muscular spasms and tetanus, traumatic delirium, acute purulent œdema and gangrene, necrosis, pyemia, &c.

In the concluding chapter of his work, Dr. Gurlt speaks of the deficient formation of callus giving rise to pseudarthrosis, and of the over abundant formation of it giving rise to deformity after fracture. We regret excessively that the space allotted to an article such as this, does not permit us to dwell at greater length on the merits of this portion of Dr. Gurlt's book. Nothing that has been written on the subject seems to have escaped the author: one is only more and more surprised and gratified to find that, to the very end of the work, the same careful research, learning, and unceasing industry characterize every page.

A space of not less than forty pages is allotted to a tabulated account of 484 cases of ununited fracture, and an admirable concluding resumé, replete with valuable statistical information concerning the frequency of false joint in different localities, the advantages and risks attending the various modes of treatment, &c., &c.

In drawing to a close this very cursory notice of Dr. Gurlt's volume, we can only say that we consider it, of its kind, a first-rate

book, and one which, as a work of reference in the library of the surgeon engaged in the important duty of clinical teaching, must be of incalculable value.

Clinical Surgery. By THOMAS BRYANT, F.R.C.S., Assistant-Surgeon and Lecturer on Operative Surgery at Guy's Hospital. Parts II. and III. London: John Churchill, New Burlington-street. 1860 and '61.

Ten Years of Operative Surgery in the Provinces, being the Record of Eight Hundred and Seventy-five Operations, performed from 1850 to 1860. By AUGUSTIN PRICHARD, F.R.C.S., Surgeon to the Bristol Infirmary, &c. Part I., comprising 639 cases. London: T. Richards.

MR. BRYANT'S work would appear to be based upon the author's experience at Guy's Hospital for the previous seven or eight years, and may be taken as a fair exposition of the surgical practice of that institution over this period; moreover, as the author has recorded and tabulated the most salient facts in relation to a great number of the cases which have come under his notice, the work promises to become a tolerably extensive record of surgical statistics.

The book is published in parts. Part II. treats of the surgical diseases and injuries of the nose, larynx, thorax, with its contents, and of the organs of circulation, and opens with chapter 6, in which the subjects of foreign bodies in the nasal cavity, polypus nasi, ozena, &c., are discussed in a cursory manner, and illustrated by cases. In the next chapter, speaking of foreign bodies in the air passages, the author remarks:—"That the foreign body may be lodged at the orifice of the larynx, but that, in the majority of instances, it passes into the rima, where it may be arrested as it passes through into the trachea or bronchi, the *left* being its most common seat." Now, this is so contrary to general experience, that we suspect the sentence quoted contains a typographical error. It is the right bronchial tube, which, with very few exceptions, receives the foreign body—its larger size, and the inclination of the semilunar ridge within the trachea, towards the left side, where it bifurcates, thus dividing the passage unequally, are anatomical reasons quite sufficient to explain the fact. There are eight

examples of the accident alluded to, and in all tracheotomy was performed; in five the foreign body was immediately ejected through the wound; in the remaining three it could not be removed, and death ensued. In two of these the substance was impacted in the rima, and in the third case in the *right* bronchus. To this latter we particularly refer, as a practical point of vital importance is deducible from it:

“A boy, aged 3 years, accidentally inhaled a small haricot bean, and was brought to Guy’s sixteen hours after the accident. When admitted, the respiration was difficult but steady; the child’s head was thrown back, and its veins somewhat congested. In examining the chest, the right side was completely paralyzed, no air passing into the right lung. Tracheotomy was at once performed, but without benefit—the bean did not move, and the child died about 40 hours after the accident. After death, the right lung was found to be completely collapsed. Firmly impacted in the right bronchus was a bean which completely filled the tube; it was removed with difficulty, having evidently much swollen from the moisture with which it was surrounded. The lungs themselves were healthy.”

In a case almost precisely similar, the late Sir Philip Crampton adopted a proceeding which deserves to be imitated in a like emergency: he introduced a bent probe down the trachea into the bronchus, and knowing the sides of the tube to be yielding and elastic, pushed on the instrument *beyond* the foreign body, so as to admit of air entering the inactive and collapsed lung. Immediately the side sprung up, and the impacted substance, which we believe to have been a plum-stone, was shot out with force sufficient to make it strike audibly an adjacent window.

In connexion with the subject of tracheotomy, as performed for œdema of the larynx, produced by swallowing boiling water, a fact is noticed with which practical surgeons are familiar: the passage of milk and other fluids through the artificial opening in the act of swallowing. This is attributed by the writer to the scalded and blistered condition of the epiglottis and glottis, rendering these parts incompetent to act as valves, and insensible to the impression of substances passing over them; but we are aware of the occurrence in question where no such condition of the larynx existed, consequently do not consider the explanation given a satisfactory one. We know the glottis to be the seat of rhythmical movements of contraction and dilatation during the respiratory acts; it is also closed during deglutition. The operation of tracheotomy appears

to put a stop to these movements, by arresting or controlling the action of the laryngeal muscles, which are placed by it in a condition of comparative rest. It has happened more than once for a foreign body, after the windpipe had been opened, to be expelled through the rima, although previously its exit in this direction had been resisted by the approximation of the vocal cords in the act of coughing; for example, in the case of Mr. Brunel, who was operated upon by Sir B. Brodie, it was not until the trachea had been opened that a small coin escaped through the glottis. It is to this state of repose or inaction of the laryngeal muscles, produced by tracheotomy, that we would attribute the passage of fluids through the artificial opening, rather than to the causes assigned by Mr. Bryant. If damage done to the superior opening of the larynx by scalding fluids interfered with the valvular action of these parts, so as to permit fluids to enter the trachea, this accident ought to take place as easily before the operation as subsequently. We are not aware, however, of any case in which the occurrence has been observed, consequently incline to connect the imperfect action of the glottis with the effect of the operation rather than to an inflammatory lesion of the parts.

Passing by the chapters on wounds of the throat and injuries of the thorax, which do not present any points of interest to arrest our attention, we come to the diseases and injuries of the organs of circulation. The subject of aneurism is discussed in a separate chapter; 20 cases are alluded to—2 cervical, 3 humeral, and 15 of the femoral artery in some portion of its course. Of these latter, 11 were popliteal—10 in men, and 1 in a woman; 5 were in the left, 5 in the right leg, and in one patient both popliteal arteries were affected; 3 of the cases were cured by pressure, 5 by ligature, after pressure had failed, 2 died from internal arterial disease when under treatment by pressure, and one died after amputation, from gangrene following the application of a ligature for a burst and diffused aneurism. In all suitable cases the pressure treatment would appear to have had a fair trial. On this subject we shall permit the author to speak for himself:—

“I should, then, suggest that in all cases of popliteal aneurism, unless any decided symptoms are present contra-indicating the treatment, pressure should be primarily resorted to. Let a few weeks, say a month, be expended in such practice, and if good hopes are not held out or realized in that period, let a ligature be applied. Looking at the thing

personally, the above is the line of practice I should select if I were myself the subject of aneurismal disease."

Part III. treats of the surgery of the mouth, pharynx, abdomen and rectum, including hernia. The chapters on hare-lip, cancer of the lip, diseases of the tongue, tonsils, palate, and pharynx, are concise and unimportant. Those on contusions of the abdomen and ruptured viscera, will be read with advantage; several cases of interest are cited, followed by judicious remarks on the treatment of these dangerous accidents.

The chapters on strangulated hernia possess unusual merit, and will well repay a careful perusal. The statistical part of the subject especially, is handled in a very masterly manner. The most important deductions, in relation to every circumstance bearing upon the disease, are carefully eliminated from figures, analyzed and arranged with unquestionable judgment and discretion. Very useful tables are given to illustrate the various points touched upon. To these, however, we are unable to do more than refer. The propositions deducible from one of the tables are so very important, that we here reproduce them in full:—

"Deductions on Inguinal Hernia.

"1. That it is more common than femoral by 74 per cent., and is far less liable to strangulation.

"2. That it rarely becomes strangulated on its first descent; that 24 per cent., at least, are of the congenital form, the remainder being of many years' duration.

"3. That when strangulated, it is more frequently relieved by the taxis than femoral hernia—these means succeeding in about two-thirds of the cases, whilst in femoral it hardly reduces one-third.

"4. That the taxis is most successful in cases of old hernia, less so in congenital, and least of all in the recent; and that a fatal result follows its use in about 5 per cent., the cases generally belonging to the class of old hernia.

"5. That the taxis is not only more successful in its immediate effects, but is less fatal than in the same class of cases in femoral hernia, in the proportion of 5 to 14 per cent.

"6. That herniotomy is more fatal than in femoral hernia; that in recent cases a fatal termination is the rule; in old, about 50 per cent. die, and in the congenital form, about 38 per cent.

"7. That when the sac is opened, which appears to be necessary in about four-fifths of the cases, death takes place in about 60 per cent., the congenital form showing the most favourable results.

" 8. That when the sac is not opened, which is the case in about 20 per cent. of the cases operated on, the death-rate sinks from 60 per cent. to 22, the congenital form here being the most favourable; and in old hernia, the mortality sinks to only 16 per cent., or less than 1 in 6.

" 9. That a strangulated recent inguinal hernia is rarely reduced by the taxis, more than two-thirds requiring herniotomy, and that a successful result is a rare occurrence.

" 10. That the congenital form, when strangulated, is successfully treated in more than half the cases by the taxis, and that a fatal result of such treatment is very rare.

" 11. That in the congenital form the operation of herniotomy is more successful than in the recent or old, 38 per cent. of these cases dying, against 50 per cent. of the old.

" 12. That in the old hernia, at least 70 per cent. are reducible by the taxis, 5 per cent. proving fatal.

" 13. That in the old, herniotomy is fatal in about half the cases; that when the sac is opened 60 per cent. die, and when unopened 16 per cent.

" 14. That in inguinal hernia, as a whole, when the sac is opened, the operation of herniotomy, is far more fatal than when it is not, the difference being at least 40 per cent.

" Deductions on Femoral Hernia.

" 1. That it forms but 10 per cent. of the cases of hernia; but 44 per cent. of the cases strangulated, femoral hernia being far more liable to strangulation than inguinal.

" 2. That when strangulated, at least 20 per cent. are of recent origin, that is, are strangulated on their first descent.

" 3. That when strangulated, the reduction by the taxis is far less successful than in inguinal hernia, by nearly 40 per cent., and the taxis is also far more fatal.

" 4. That the taxis is most successful in recent cases, and the least so in old—1 in 3 of the former, and 1 only in 4 of the latter being reduced by such means; and 14 per cent. of these old cases are fatal.

" 5. That herniotomy is less fatal than in inguinal by at least 10 per cent.; that in recent cases 66 per cent. die, and in old, only 36 per cent.

" 6. That when the sac is opened, the mortality is 20 per cent. greater, the difference ranging between 50 and 30 per cent.

" 7. That in recent hernia the sac is opened in only 38 per cent. of the cases, and left unopened in 62 per cent., the death-rate falling from 87 per cent. in the former cases to 54 per cent. in the latter.

" 8. That in old hernia the sac is opened in 62 per cent., and left unopened in 38, being exactly the reverse of the recent; the death-rate falling from 45 per cent. in the former, to 22 per cent. in the latter.

" 9. That recent cases of strangulated femoral, treated by herniotomy,

are at least twice as fatal as old; that the sac is not required to be opened in the majority of such cases, and that in these the mortality is less by 33 per cent.

"10. That old cases of strangulated femoral, treated by herniotomy, are half as fatal as the recent; that when the sac is opened they are twice as fatal as when it is not opened, the death-rate in the latter being but 22 per cent.

"Deductions on Umbilical Hernia.

"1. That it forms but 5 per cent. of the cases of hernia, and 6 per cent. of the cases strangulated.

"2. That 73 per cent. of the cases strangulated are reducible by the taxis, 10 per cent. proving fatal.

"3. That 27 per cent. are reducible by herniotomy, 80 per cent. dying."

With reference to the much debated question of opening or not opening the sac, Mr. Bryant is irresistibly led by an analysis of the materials at his disposal, to prefer the "minor operation" wherever there is a possibility of performing it; and indeed it would be difficult to resist the conclusion deducible from the numerical survey of the question:—

"Taking the cases of inguinal hernia in which herniotomy was required, death took place in 60 per cent. of the cases in which the sac was opened, and in 22 per cent. only in which it was left alone, the difference being nearly 40 per cent.; the cases in which the sac was opened being nearly three times as fatal as were those in which it was left untouched. In femoral hernia the same conclusion appears to be equally manifest, the death-rate in the two cases differing 20 per cent.; where the sac was opened the mortality being 50 per cent., and when left unopened, only 30 per cent."

Referring to the various agents employed for aiding the taxis, chloroform is spoken of in the most laudatory terms; it would appear to have succeeded in nearly 20 per cent. of the cases in which other means had been previously tried without effect; consequently we should not lose time with other remedies when we possess one so incomparably their superior. "By its use, delay is not occasioned, symptoms are not masked as may be done by opium, and the danger of long-continued and repeated taxis is annulled," and this recommendation of chloroform we unhesitatingly endorse.

On the subject of after-treatment, the principle of preserving the inflamed and injured intestine in a state of rest, is properly enforced;

for this purpose, opium, in moderate doses, is recommended. As respects purgatives, there are few cases in which they should be employed, unless symptoms, evidently resulting from constipation, are produced; and then the mildest means will suffice, such as the administration of an enema or a dose of castor oil.

Anal abscess, and diseases of the rectum, are inadequately discussed in the concluding chapters.

We have now passed in review the contents of Parts II. and III. of Mr. Bryant's *Clinical Surgery*, so that our readers may be able to form some idea of the character and scope of the work. Based as the author's observations are exclusively, on clinical experience, none of the subjects are treated of in a complete and perfect manner. The book, consequently, is not well adapted for the junior student; nowhere are authorities quoted, and this arrangement we approve of—to have acted otherwise would be to alter *in toto* the character of publication. Nor will the disciple of the innovating school of surgery find much of novelty wherewith to delight his imagination; but the thoughtful, practical surgeon, will read this work, so far as it has gone, with interest and advantage.

The other publication, referred to at the head of this review, gives an account of 639 operations. The cases are briefly detailed, as it were from the case-book of the author, and the result, whether successful or otherwise, faithfully recorded. When cases of special interest present themselves judicious practical remarks are appended; and in many instances an accurate histological description is given of pathological products. The series of eye operations forms a very important record. Part I., which is reprinted from the *British Medical Journal*, is only in our hands. When the work is complete we may notice it more particularly.

The Principles and Practice of Obstetrics. By GUNNING S. BEDFORD, A.M., M.D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Obstetrics, in the University of New York. Samuel S. and W. Wood. New York: 1861. 8vo, pp. 731.

WHEN any one occupying such a position as that held by Dr. Bedford—a professor in a university, an author of established reputation, and a practitioner enjoying public confidence—when

such a one offers to the world a systematic treatise, it must be inferred that he feels he has something new to communicate, some new principles to enforce, or some new rules of practice to inculcate and illustrate, or else, that he is dissatisfied with the manner in which the established principles and rules have been taught in the systematic works hitherto in use. On the publication of such works it is certainly the duty of journalists to examine them carefully, to draw attention to the new principles and rules of practice taught, to show wherein these vary from those hitherto considered correct, and even to criticise the whole performance, and raise a warning voice, if need be, against inaccurate, false, and erroneous teachings; for the influence of a teacher is without limit, it extends in ever widening circles to affect for good or for evil the thoughts and actions of generations yet unborn, long after the teacher has passed from his teaching, and when his place shall know him no more.

Impressed thus with a deep sense of our own responsibility as "watchmen on the walls," we referred, on taking up this treatise of Dr. Bedford's, to the preface, to see what were the points to which he wished to draw particular attention, and what were the motives influencing him to its publication. We at once saw that it was in the chapters on operations generally, and more especially on embryotomy, the Cesarean section, and the use of the forceps that they were to be found; and, on reading these we met with so much that we consider erroneous, that we deem it our duty to protest earnestly against the general reception of the work as a class book for students.

Dr. Bedford arranges all labours in two classes—natural and preternatural. Under the head of natural he places "all cases in which delivery is effected by the unaided efforts of nature, or in other words, without the assistance of art." "Preternatural labour, on the other hand, as its name implies" is, he says, "contrary to the natural process, and, therefore, needs the interposition of science: it may be divided into *manual* and *instrumental*." Although apparently a simplification, this classification is attended with as many difficulties as more elaborate ones, as the various species of other authors have to be treated of as accidents or complications affecting the two primary classes; and it is obvious that many labours may be effected by the unaided efforts of nature, and yet be so far from natural that both mother and child may lose their lives in the process. It is, however, to the second subdivision of

preternatural labours, or the instrumental, that we would first call attention; these are further divided into those in which blunt instruments—as the vectis and forceps—are used, and those in which cutting ones are to be resorted to—as in symphyseotomy, the Cesarean section, and embryotomy. The first of these, symphyseotomy, or the Sigaultian section, Dr. Bedford, along with all modern writers, condemns; but between the Cesarean section and embryotomy he draws an elaborate comparison, which he concludes with the following startling and emphatic assertion:—

“Therefore, in the fulness of my faith, I have no hesitation in saying that, *if the child be alive, the woman at the completion of her pregnancy, and it be made manifest that the maternal passages are so contracted as to render it physically impossible that a living child can be extracted per vias naturales, I should between the two resources—craniotomy and the Cesarean section—not hesitate to decide in favor of the latter.*”

We call this startling; as we did not think any one could be found, at the present day, to enunciate such a doctrine, except the writer of the article on “obstetric morality,” which appeared a few years ago in a theological review published in this city; and we must say we are not a little proud that no medical man in these kingdoms has been found to avow himself ready to act on the species of morality advocated in that article.

The choice between the Cesarean section and other modes of extracting the child, Dr. Bedford says, “must be determined by a just balance of the evidence;” but, instead of weighing the evidence impartially, and as a judge, he uses it as would an advocate, and, we regret to say, an unscrupulous one: he suppresses what is unfavourable to his cause, magnifies that which seems to support it, and, with the ingenuity of an advocate, states at the lowest value that which might be opposed to him. Thus he quotes Dr. Churchill as showing that the mortality of the mothers, in the cases of craniotomy he has collected from various authors, is as one in five; but he singles out Dr. Clarke’s returns, which show a mortality of one in three, and then insinuates that even this is not the worst of it, that these are but the immediate deaths, and that of those who ultimately recover many are perhaps so injured as to be miserable ever after. He makes no allusion to the fact recorded by Dr. Churchill, on the same page, that in 12 private cases, where Dr. Clarke had an opportunity of operating at the proper time, and before the patient had been actually brought to the point of death, by

delay, none of the mothers died; and that in a series of such cases, the deaths, instead of being 1 in 5, or 1 in 3, were as low as 1 in 29.^a

In speaking of the deaths from the Cesarean section, on the other hand, instead of taking the highest mortality, as he did in the other case, he picks out the lowest, and adopts that as his standard of comparison, and argues that even that is higher than it should be, if the cases were operated on in proper time. He thus makes it appear, that while in craniotomy all the children are lost, and 1 mother out of 3; in the Cesarean section only 1 child out of $3\frac{1}{3}$, and 1 mother out of $2\frac{1}{3}$ will perish, and by such means urges his pupils to adopt the rule of practice we have quoted above.

Unjustifiable as is this mode of advocating the Cesarean section, it is surpassed by the directions given as to its performance. When speaking of the use of the forceps—an operation not attended with any risk to the mother's life—Dr. Bedford is most particular in directing that her consent should be obtained, and even advises that the instruments should be shown to her, and the mode of their operation illustrated; but in this almost certainly fatal operation, he recommends that the patient's consent shall not be asked, in order to prevent a mental shock. "The mother," he says, "should be kept in partial (!) ignorance; tell her, for example, that it has become necessary for the safety of her child, and the termination of her labour, that you should interpose and assist nature;" then, "*place her under the influence of anæsthesia, lull her into unconsciousness, and make her blissful in her ignorance.*"^b We could not trust ourselves to speak of this direction as it deserves, nor is it necessary that we should.

But, after all, Dr. Bedford's practice is probably better than his precepts: it does not appear that he has ever performed the operation he advocates. In two cases he performed what he calls the vaginal Cesarean operation, which is but the incising of the os or cervix, but he does not give any cases of the true Cesarean section, nor does his name appear in any of the published lists of operators. So far from

^a We give these figures from the page from which Dr. Bedford quotes, but there is evidently a clerical error, as the numbers are 4 deaths in 124 cases, or 1 in 31. This is corrected in the appendix, which is a reprint, from our 26th Vol., of Dr. Churchill's most able reply to the article on "obstetric morality." It is not a little remarkable that though Dr. Bedford's quotations from this edition of Dr. Churchill's book are most full and numerous, he makes no allusion whatever to this appendix.

^b The italics are the author's.

repudiating craniotomy, he has devised an alteration in the crotchet for facilitating its performance.

Crotchet.—Dr. Bedford proposes to add to this instrument, a guard, which is made to slide on the shank, so as to effectually cover its sharp point and protect the soft parts of the mother if the instrument should slip. The guard is movable, and the end of it he has fashioned to serve as a blunt hook as a matter of economy. If the guard does not interfere with the application of the instrument, it will certainly be useful; but, with the careful operator, it will be his own fingers that will derive the benefit rather than the mother, as the finger is always placed opposite to the point of the instrument to receive it in case of a slip, and seldom escapes unhurt in difficult operations. Dr. Bedford seems to be indifferent as to the part of the head he seizes with the crotchet, but all well-informed operators agree with Dr. Simpson, that when the instrument is fixed on the occipital, or posterior part of the parietal region, the head can be extracted with much more ease, or through a much smaller pelvis than when it is fixed on the frontal region.

We now pass, in a retrograde manner, to the chapters on the use of blunt instruments, viz., the Fillet, the Blunt-hook, the Lever or Vectis, and the Forceps. It is only of the lever and forceps we have to speak.

The lever or vectis, Dr. Bedford regards as only useful for correcting some peculiar malpositions of the head. For example, when the occiput is extended backward the lever will, he says, prove, in dexterous hands, an important auxiliary in changing the position to one of the vertex, or in case the head should fail to rotate in the pelvic cavity, and the hand be inadequate to accomplish the movement, the lever may be employed with good effect, but under no circumstances should it, he says, be resorted to as a tractor. In the condemnation of the vectis as a tractor we fully concur. It is an instrument that, in our own practice, we never use; in the hands of others we have seen it cause most extensive and even fatal injuries to both mother and child. Even as a rectifier of malpositions we believe that the instrument might, with great advantage, be omitted from the *armamentarium* of the accoucheur altogether, for with Dr. Bedford we believe—"That the truly skilful accoucheur rarely (comparatively at least) employs instruments, for the obvious reason that, in the first place, he is thoroughly imbued with a knowledge of the laws by which nature is regulated in the parturient effort, and secondly, he is cognisant that when not interfered with by

officious meddling, this same nature is generally adequate to the proper accomplishment of her work." As to the particular malpositions referred to, we believe that, except when the pelvis is very large, or the fetal head very small, when they are of no consequence, they are almost always rectified without the interference of the accoucheur, and did we want confirmation in our opinion, it would be amply afforded by the fact referred to by Dr. Bedford, that in the Dublin Lying-in Hospital, under the mastership of Dr. Collins, in 16,414 deliveries, the lever was used but three times, and in the same institution, during the mastership of Dr. Shekleton, as reported by Drs. Sinclair and Johnston, in 13,748 deliveries, the lever was resorted to but once.

The Forceps.—Notwithstanding that Dr. Bedford deprecates, in strong language, the increase in the numbers and forms of the forceps, and thinks the interests of humanity would have been better and more wisely served, had the time employed in their construction been devoted to the consideration of the circumstances and the manner in which the instrument should be used, he has himself proposed alterations in its construction—alterations that we cannot at all consider improvements. In the first place, he adopts the second or pelvic curve of Smellie and Levret—a curve that has long been repudiated by the Dublin school; and he adopts the button-joint, instead, as he says, of the pivot-joint—the open lock or mortice and tenon joint, such as we use here, not being alluded to by him. But the most important alterations he suggests are as to the handles. These he has made longer than usual, so as to afford a greater lever for making traction, but as he does not give any measurements, we cannot judge as to the degree to which he lengthens them. The extremity of the handle he prolongs in a curve, so as to form a hook for the hand. At the other extremity of the handle, or where it joins the blade, he places a ring, so that when the blades are *in situ*, the rings are opposite to each other. In using the instrument the handles are to be grasped in the right hand, and then over this the left hand is to be placed, with the index and middle fingers in the rings, so as to obtain additional extracting power, and at the same time give it “the proper direction, and facilitate very much the lateral movements so essential to impart to the child’s head during the stages of its delivery.” The force employed, Dr. Bedford says, “should be compound, consisting of *two-thirds lateral and one-third extractive.*”

We do not very well understand the meaning of this direction as

to two-thirds of the force being lateral ; but we have no hesitation in asserting, with Drs. Sinclair and Johnston, that traction should only be made in the one direction, namely, that of the curve of the axis of the pelvis, and that lateral motion of any kind, such as sawing or twisting the grasped presentation, should never be attempted. If any exception to this latter rule, that there should be no twisting of the grasped presentation, can be admitted, it is in cases where it is necessary to apply the forceps when the head is presenting with the face to the pubes ; and yet, strange to say, in the elaborate descriptions Dr. Bedford gives of his mode of effecting delivery in every possible position of the head, in this one alone he does not recommend it to be rotated, as will be seen in the following extract :—

*“Second Position—The Occiput regarding the Concavity of the Sacrum, the Face to the Pubes.—*It will at once be seen that the head here is completely reversed ; and, moreover, in this position the forceps will, in the majority of instances, be indicated for the reason of the protraction of the labour ; for you are not to forget that the occiput, being posterior, must have traversed the entire length of the posterior wall of the pelvic cavity—consisting of the sacrum and coccyx—before it can make its exit ; and, as a general rule, the increased duration of the labour will have so far perilled both mother and child as to render it necessary to resort to the forceps. But, in addition, any of the accidents already mentioned would constitute another motive for the use of the instrument. The rules for the introduction of the forceps are precisely the same as in the first position. It is well, however, to remember that there will be more difficulty in the extraction of the head in this second position, and the force employed should be more guarded, for the face cannot be brought under the pubes with the same facility that the occiput was in the preceding case, because of the greater irregularity of its surface ; again, the distension of the perineum will be much greater, because of the rounded and more prominent configuration of the occiput. It must also be recollected that, in this position, the forceps, as soon as the head begins slightly to protrude, instead of being elevated, must be depressed, for the purpose of bringing the chin from the sternum, so that when the head is delivered the instrument will be at a right angle with the spinal column.”

We give the author's directions as to the use of the forceps in these cases in full, that we may not misrepresent him, and because we feel bound to protest against every item of them. We deny that “the forceps will, in the majority of instances, be indicated for the reason of the protraction of the labour.” Cases in which the

head enters the pelvis with the face directed anteriorly are by no means rare. Dr. Halahan found them to be as frequent as 38 per cent. of his entire cases;^a and of these 80·5 per cent. changed into the first or second position in the progress of the head through the pelvis. But Dr. Bedford's remarks are more particularly intended for cases where the head has passed down into the pelvis without making the usual turn; but even such cases only require artificial aid exceptionally. It is true that the older writers assert that all such malpositions must be remedied, and that Dr. Bedford might bring an overwhelming array of authorities to support his assertion; but had he consulted the Reports of the Dublin Lying-in Hospital, as in undertaking to write a "practical book, one which will develop the phenomena of parturition in their various phases," he ought, he would have better learned "the laws by which nature is regulated in the parturient effort; and that, when not interfered with by officious meddling, this same nature is generally adequate to the proper accomplishment of her work."

Of the 33 cases of face to pubes presentations recorded by Drs. Johnston and Sinclair as having occurred amongst 13,748 deliveries, 20 were completed within 24 hours, without assistance; only 4 exceeding 12 hours; and of the remaining 13, only 3 of the uncomplicated cases required the forceps, and 1 the perforator. Dr. Collins, in his Report, gives but 12 cases as having occurred amongst his 16,654 births, in 10 of which labour was completed under 24 hours, 6 being under 12. Of those that exceeded 12 hours, 3 had the pelvis very defective, and required to be delivered by the perforator; and in another case this instrument was used, because the hand and funis descended with the head, and the child was dead. "But," says Dr. Collins, "by reference to the cases, it will be clearly seen that the *position* of the child did not in any instance render artificial delivery necessary;" and he sums up by saying, that "all attempts to alter the position of the head in the early period of labour, when found presenting in either of the above-mentioned ways," (face, or face to pubes) "are, in my opinion, injudicious. The labour should be treated as one perfectly natural."

We have thus proved, by irrefutable facts, that face to pubes cases do not, as a rule, require to be delivered by artificial means, and do not endanger the mother and child by their tediousness. We might refer to many high authorities as holding the same

^a See our last Vol., p. 470.

view, but we prefer rather to appeal to "the text book of nature," than to array opinion against opinion. Now, as to the mode of operating where assistance with the forceps is necessary, Dr. Bedford's directions to depress the handles (he operates with the patient on her back), so as to bring them into a right angle with the spinal column, surprise us beyond measure. He may quote Nægelè as an authority for not attempting to rotate the head, and seeing that they both use a forceps with a pelvic curve, even the warmest advocates for rotation will admit that they are right, yet the direction to make extension backwards so as to raise the chin from the sternum, is so at variance with the natural mechanism of delivery in such cases, that we cannot understand why it should be given. The natural process in such cases is, for the forehead to rest on the pubes as on a fulcrum, and for the occiput to make a sweep of the perineum as the face does in the purely natural cases; and in using the forceps these movements should be imitated, and the handles brought forward towards the abdomen of the mother, as in natural cases.

We cannot leave this subject of the forceps without referring to what we consider a very unjust imputation on the English School of Midwifery of the present day, viz., that the dicta of Denman, Merriman, and others, have taken so strong a hold on it as to lead to such a delay in using the forceps as to be fraught with evil, not only to the safety of both mother and child, but also to the reputation of the medical man—an imputation that the most cursory acquaintance with the current literature is sufficient to repel. We must also allude to the case of vesico vaginal fistula, brought forward by Dr Bedford, on the authority of a talkative patient, as illustrative of the injuries that may be produced by the forceps in unskillful hands; we all know too well how ready patients are to blame their medical attendants, and cannot wonder that actions for malapraxis are so common in America, when university professors hold such conversations as the following with patients presenting themselves at their hospitals. It will be observed that the woman was three days in labour, and though she describes it as only lingering, not severe, this tediousness was a good reason why the professor should not only not have imputed the fistula to the use of the forceps, but, on the contrary, should have taken some pains to explain to the woman that the injury was most probably caused by the pressure of the head on the bladder during the three days before she obtained assistance—a much more likely cause of slough-

ing and fistula than any injury that could be inflicted by the forceps.

"Mrs. R., aged 22 years, married, complains of inability to pass her water in the natural way, and says it runs from her nearly all the time through the front passage. 'How long, madam, have you been married?' 'Just twenty-six months, sir.' 'Were you a healthy woman before your marriage?' 'Yes, sir; I never had a day's sickness, thank God.' 'You have had a child, have you not?' 'Yes, sir.' 'When was it born?' 'Fifteen months ago, sir.' 'How long were you in labour?' 'Three days, sir.' 'Was your labour severe?' 'No, sir, but it was lingering.' 'Had you any one to attend you?' 'Yes, sir, there were two doctors with me.' 'Was your child born alive?' 'Oh! no, sir; the poor little thing was all bruised, and its head was a good deal injured.' 'Why so, madam?' 'The doctors did it, sir, with the instrument.' 'Then, you were delivered with instruments, were you?' 'Yes, sir, indeed I was, and a poor sufferer have I been ever since!' 'No matter, my good woman, do not deplore the past; you have been cruelly wronged, but we will endeavour to do something for you; at all events, we will make you more comfortable.' 'Thank you, sir.' 'Before your delivery, had you any trouble with your water?' 'None in the world, sir.' 'How long after the birth of your child did you experience trouble in this way?' 'Since the birth of my child, sir, my water has always troubled me. It runs from me, and I cannot help it!' 'Did you call the attention of the doctors to this circumstance?' 'No sir, for they never came near me after I was delivered.' 'Then, madam, they did not do their duty.' 'Indeed they did not, sir.' 'How long was it after the birth of your child that you left your bed?' 'I could not go about, sir, for nearly six months.' 'Have you had your courses since your confinement?' 'Only once, sir, about two months ago, and I thought I would have died from the forcing pain I had.' 'Did the usual quantity pass from you?' 'No, sir, very little, indeed.'"

Some further matters we had noted for observation, such as the direction that all midwifery operations should be performed with the patient lying on her back; that in turning for placenta previa, the hand should be passed through the placenta; and, more particularly, the doubtful position in which the question of the propriety of inducing abortion is left, where a woman is pregnant with a pelvis so narrow that it is physically impossible that a viable child can pass through it, and where, if the pregnancy be allowed to go to the full period, embryotomy or the Cesarean section must be performed. "What," asks Dr. Bedford, "is the duty, under these circumstances, of the conscientious accoucheur, who is not actuated

by a thirst for innocent blood, but who is most anxious to discharge with fidelity the sacred obligations which his profession imposes on him?" This important question, the teacher says, he cannot undertake to determine for others; it is one, he says, which must be left to conscience, and a sincere desire, as far as may be, to do what is right; nor does he say plainly what would be his own decision under the circumstances, though he allows it to appear that, rather than interfere with the living germ, he would let the pregnancy go to the full period, and make the mother undergo the risks of the Cesarean section. We have, however, done enough for the fulfilment of our duty—a painful and disagreeable task it has been. But it was incumbent on us to sound the alarm, and we could not desert the post of honour, with which we have been entrusted.

On Dropsy, connected with Disease of the Kidneys (Morbus Brightii), and on some other diseases of those organs, associated with albuminous and purulent urine. Illustrated by numerous drawings from the microscope. By W. R. BASHAM, M.D., F.R.C.S., and Physician to the Westminster Hospital. Second Edition. London: Churchill, 1862. 8vo, pp. 347.

JUST three years ago we had the pleasure of reading Dr. Basham's first edition of his work on diseases of the kidney; we expressed at that time the high sense we entertained of the value of the work, and our opinion has been fully borne out by a further edition of the same being required within the short period of three years. The work before us is considerably larger than the first edition, containing, in fact, nearly 100 pages more. The author tells us in his preface that "a large amount of fresh matter has been added confirmatory of the object which the author originally had in view—to show that a careful examination and record of the microscopic appearances of the sediment in albuminous urine, may at all times be accepted as a truthful interpretation of the advance or recession of the renal disorder, and, therefore, is essentially the safest guide to treatment. Passing over the first 250 pages, an ample review of which we already gave in our analysis of the first edition, we shall take a glance at what Dr. Basham has to say about "albuminous, sanguinolent, and purulent urine, unconnected with dropsy;" and here the author starts with the aphorism, that urine may present

all the foregoing characters "and yet not be symptomatic of morbus Brightii; for these states of the urine, apart from the tube-casts, are common to many disorders of the renal organs. In the one case a greater or less amount of general dropsy is always present; in the other, those morbid conditions of the urine are independent of any such symptom." He adds, further down, "no satisfactory explanation of the cause of the urine becoming temporarily albuminous has hitherto been offered." It is a functional disturbance, depending, in all probability, on diffuse capillary stasis, by which the functions of all organs are more or less impeded or deranged."

Here follow several interesting cases, illustrating the several conditions of urine mentioned above, especially some cases of hematuria depending on mental excitement and agitation. These are followed by a chapter on abscess of the kidney which is well worthy of attention; it is carefully written, and illustrated by good coloured plates. The final chapter treats of hematuria depending on malignant disease of the kidney, and on polypus of the bladder; both diseases are far from being common, both are inevitably fatal; and the medical man can, therefore, do no more, in such cases, than endeavour to mitigate the sufferings of his patient, and smooth his passage to the other world. But it is no less essential that the medical man should be able to make a correct diagnosis, as hematuria may depend upon very different causes. In this chapter the student will find some excellent information upon the subjects in question, and we fully agree with Dr. Basham as to the diagnostic differences he lays down. Some years ago we had under our care a very interesting case of polypus of the bladder—it terminated fatally; but we were fortunate enough to be permitted to make a *post mortem* examination, which quite corroborated the diagnosis we had made. The case fully illustrated Dr. Basham's assertions, that "in few cases this form of disease brings with it the expressive and unmistakable features of malignant diathesis." In our case the peculiar lemon tinge of malignant disease did not appear till a short time before death, although the patient had polypus for upwards of two years. "The pathognomonic symptom of these diseases seem to be frequently returning hematuria; the urine during the intervals of the early period of the disease exhibiting no indications of renal or vesical disorder." "The hematuria is the first premonitory symptom, and the appearance of blood in the urine is unaccompanied by any sympathetic irritation, except that while it continues

there is a troublesome frequency to pass water." Our patient never complained of any pain; and after an attack of hemorrhage his urine would appear to the naked eye perfectly healthy and free from blood, and would continue so for weeks if he kept quiet. The rules for distinguishing between hemorrhage from the kidneys and hemorrhage from the bladder are also good; and the only addition we make to Dr. Basham's directions for treatment is, to avoid as much as possible the introduction of instruments into the bladder when it is ascertained, or even fairly suspected, that the hemorrhage depends on the presence of a polypus in it; no good can be done, but on the contrary much harm may ensue, as the catheter may pass into the substance of the polypus, and by that means increase the hemorrhage. It is generally difficult to check the hemorrhage in this case. In our hands gallic acid, in five-grain doses, every third hour, has proved of service, and on one occasion we obtained a decided success by injecting the bladder with a solution of alum. We commend this work to all who desire to learn the true significance of albuminous urine—a significance most important, both to the patient and to the practitioner, for it may signify either a simple innocent transitory affection, or a serious irremediable disease.

A Manual of the Diseases of India. By W. J. MOORE, Bombay Medical Service. London: Churchill. Fcap. 8vo, pp. 208.

THIS small book, on an extensive subject, will be found to contain a large amount of condensed information on the different subjects treated by the author.

The introductory chapters on the climate—its immediate and remote effects on the European constitution—the means of preserving the health of Europeans in India—and on hill and marine sanatoria, without containing anything original, present a compendium of the most recent views on these important subjects.

The author strongly advocates the expediency of using the hill stations, not solely as convalescent depôts (which purpose, it must be confessed, they frequently fail to serve, in consequence of unsuitable cases being selected for them), but also as depôts for recruits on their arrival in the country, and before disease shall have commenced its ravages; this precaution being the more necessary in

consequence of the early age and immatured physical conformation at which young soldiers are sent out. But, unfortunately, even well selected convalescents sent to the hill stations do not derive all the benefit they might enjoy from the change of climate, and not unfrequently come back from the hills worse than when they went, having contracted rheumatism or diarrhea from the deficiency, or perhaps entire absence, of due sanitary surveillance—the men themselves, as well as their officers, too often thinking that the mere fact of their being in the hills relieves them entirely from the necessity of paying any attention to the rules necessary for securing or preserving health. And there can be no doubt but that there are at all hill stations many convalescent soldiers who, at certain seasons, would be benefited by a return to the plains, or at least to a lower level for a short period.

That cases not likely to derive the greatest amount of benefit from a residence in the hills are frequently sent there notwithstanding, is not always to be attributed to want of discretion on the part of the selecting officer, but frequently to the necessity of circumstances, arising from the fact that the opportunity of selecting men for home or for the hills, occurs respectively but once a year, viz., for home at the end of, and for the hills at the beginning, of the hot season. Now it is evident that cases requiring immediate removal to a home climate must occur more frequently than once a year; and what can a surgeon do but, when the season for invaliding to Europe has passed, wait for the season for the hills; so that if perchance his patient survive the interval, he may drag on his existence in the hills until the next annual invaliding season.

This subject is not alluded to by the author of the work before us, but it is one which irresistibly suggests itself, from the painful evidence we have so frequently seen of the disastrous results of limiting the selection of invalids for home to an annual process.

The author cautions his readers against the routine use of mercury; yet it is curious to observe that, in commencing the treatment of *remittent fever* he recommends six grains of calomel, followed by sulphate of soda, or compound jalap powder, daily, “until the alvine evacuations are of natural colour.” We have never used mercury in such large or frequent doses for fever, having found one or two grains of calomel, with three grains of quinine, and one-third of a grain of morphia at bed time, followed by a castor oil draught in the morning, to produce, generally speaking, ample action of the bowels. This may be repeated for two or three nights, and during

the day quinine in three-grain doses, with saline diaphoretics, and a little wine, with sago or arrow-root; leeches to the head and epigastrium, if headache or epigastric tenderness be troublesome, give great relief. The various cerebral thoracic and abdominal complications must be carefully watched for and treated as they arise. In this mode of treatment we have never observed any injurious effects from the use of quinine during the fever; and the determination to the head, so liable to be produced by large doses, is avoided. At the same time, during a remission or intermission, a 10-grain or scruple dose may often be given with advantage.

For the *leucocythemia splenica*, so common among young soldiers who have suffered much from fever, the author recommends a thorough change of climate. In the earlier stages, before confirmed organic deposit shall have occurred, such cases derive benefit from the hills—the splenic enlargement disappearing with the fever; but when the fever is inveterate, and the spleen organically enlarged, a sea voyage or a change to Europe is essential to the recovery of health. As medical means, he recommends iron, quinine, and tonic aperients. He has not experienced much benefit from iodine or bromine. In this matter our experience is different; as we have frequently used with advantage iodide of iron and bromide of potassium, each in combination with quinine; at the same time applying locally the tincture of iodine. The author does not allude to the general anasarca occasionally present with enlarged spleen, without albuminuria, and requiring similar treatment, with the warm bath and generous diet. He very justly forbids the employment of mercury or depletion in spleen cases.

On the subject of *heat apoplexy* we cannot say that the author has been successful in simplifying the classification of cases. He gives four varieties, viz.:—

“1st. Insolation, *coup de soleil*, or heat apoplexy, due to the direct rays of the sun.

“2nd. Heat apoplexy, due to direct rays or elevated temperature.

“3rd. Heat asphyxia, occurring both from direct exposure and elevated temperature.

“4th. Cerebral fever, also caused by direct and indirect heat.”

The symptoms which he details under Classes 1, 2, and 3 are so much alike that it is not easy to distinguish them. The cerebral fever, or fourth class, he considers merely as the ardent fever, the symptoms of which will vary according as head or chest becomes implicated.

We are ourselves in the habit of classing these cases under two heads, viz.:—

1st. Occurring during the day, and from direct exposure.

2nd. Occurring at night, and dependent upon high temperature, combined with the vitiated atmosphere of the barrack, producing malæriation of the blood.

The symptoms in each form are very similar. In the second the tendency to pulmonary congestion is perhaps more marked; but this also occurs in the later stages of the first. From the time of occurrence, and the consequent delay in treatment, the second is generally the more fatal form.

In their pathology, the two forms above detailed differ: in the first the nervous system is primarily engaged, being, as Dr. Moore says, in a state of concussion. In the second, occurring at night, and frequently during the heavy sleep of intemperance, malæriation of the blood appears to be the starting point, dependent upon the diminished proportion of oxygen in the rarefied air, which undergoes a still more deleterious change in the barrack room, where, notwithstanding punkahs and open doors, the cutaneous and respiratory emanations of 40 or 50 men produce a really stifling atmosphere.

But let the origin of the disease be what it may, the symptoms soon become the same; and no one who has ever felt the dry pungent heat of skin—in these cases the true “*calor mordax*”—or heard the painful moan, can ever forget it.

These cases should not be confounded with those in which syncope, or exhaustion from heat, is the chief symptom, and which may proceed to a fatal termination, without reaction and without presenting the heat of skin which is so marked a symptom in the other cases; this form of disease more resembles the “cutaneous asphyxia” mentioned by Dr. Foureault—by whose experiments, as also by those of Bècquerel and Breschet—it was found that when the skin of animals was covered by a varnish impermeable to the air, and by which the perspiration was effectually checked, the temperature rapidly fell, and the animals died asphyxiated.^a Such a state of skin easily arises in India when the proper precautions as to ablution and suitable clothing are not employed. Cases of syncope from this cause are too frequently recorded under the head of heat apoplexy, and tend to swell the list of recoveries from that disease; the treatment adopted, viz., cold affusion and diffusible stimulants, is frequently successful; but in the true heat apoplexy, with pungent

^a Carpenter's *Physiology*. Fourth Edition, pp. 634-646.

heat of skin—stertorous breathing—painful moaning—spasmodic action of muscles, perhaps of only one side of the body, or one limb—contracted pupils—suffused conjunctivæ—let the treatment be what it may, with or without bleeding, cold affusion, stimulants, and counter irritation, the number of recoveries is lamentably small. The vapour bath, with cold to the head, diffusible stimulants, and free evacuation of the bowels, has, under the care of the late Dr. M. S. Todd, surgeon of the 27th Regiment, been followed by more benefit than any other plan of treatment; free action of the skin was established, and the congested kidneys relieved.

Under the head of *dysentery*, the writer gives a synopsis of almost every proposed plan of treatment, and advocates the mild administration of mercury—but that only in the early or acute stage; he deprecates the employment of large doses of calomel. The treatment by large enemata of tepid water, proposed by Mr. Hare, of the Bengal Medical Service, he has employed with some benefit, but says the “tube hurts the rectum.” This is by no means our experience, if the tube be carefully introduced; and the subsequent relief from the emollient application of warm water to the inflamed mucous membrane is so decided, and the advantage of having the bowel thoroughly cleared by such simple means, without using any irritant purgative, is so great that we always make it an essential part of the treatment—repeating the enemata generally three times a day; internally the administration of ipecacuanha in half drachm or two scruple doses, preceded by a full anodyne of one drachm or two scruples of tincture of opium, and a sinapism on the epigastrium, as recommended by Mr. Docker, will be found to give great relief in the acute stage; and although a considerable amount of sickness is occasionally produced, we cannot agree with the author that on this account “it is difficult to prevail on most patients to continue it,” as in many cases it has been a subject of wonder to us that the stomach should tolerate this medicine so long as it does; and even should the first or second dose be rejected, the third may be retained.

On the subject of *cholera*, its pathology and treatment, the author having given the views of most writers without advocating any, wisely refrains from announcing any new one. As to the treatment, he says:—“Considering that most cases require rather stimulation than otherwise, I endeavour, in each individual case, to use the means of cure which appears best calculated to obviate the tendency to death; *in short, I treat symptoms.*” Blood-letting he only

mentions to condemn. Since the publication of Dr. Moore's book there has been a severe epidemic of cholera in India, during which many plans of treatment were tried.

The following table showing the results of 122 cases of cholera, treated in the Agra Central Prison, from 6th till 19th July, 1861, inclusive, by Dr. R. Playfair, may be interesting:—

	Ad- mitted	Died	Cured	Per centage of Deaths	Per centage of Cured
Usual Treatment,	58	26	32	44·82	55·18
Saline enemata in addition .	29	12	17	41·37	58·63
Stimulants and venesection, .	35	8	27	28·85	77·15

Dr. Playfair advocates stimulants and venesection; the latter to a very small amount, merely to relieve the circulation. The moment the blood flows it should be stopped, and the patient supported by stimulants and nourishment. We have never seen this tried; but Dr. Playfair's lowest per centage of cured, and highest per centage of deaths show a greater amount of success than we have ever seen attained in the treatment of cholera.

During this epidemic of 1861, 250 cases among Europeans came under our own observation, as follows:—

	Officers	Men	Women	Children	Total
Cases,	2	197	19	32	250
Deaths,	2	143	12	26	183

Being a per centage of deaths to treated of 73·2. Dr. Playfair's total per centage of deaths under each form of treatment is only 37·7; the higher rate of mortality is more in accordance with general experience in the treatment of cholera. There may have been some peculiarity of type among the cases treated by Dr. Playfair to account for the mortality in this dreadful disease being so much below the average; the mere fact that his observation only extended over a fortnight may account for this. We very much fear that future experience will yet show that no treatment for this disease has yet been discovered which will even approximate its mortality to that of a severe epidemic of typhus fever.

The size and price of Dr. Moore's book place it within the reach of all; and we feel assured that it will be found to be a useful addition to the necessarily small library of the junior Indian medical officer.

On the Nature, Causes, Variety, and Treatment of Bodily Deformities ; in a Series of Lectures delivered at the City Orthopedic Hospital in the year 1852, and subsequently. By E. J. CHANCE, F.R.C.S.E., &c. In Two Parts. Part I. London: Lemare. 1862. Post 8vo., pp. 304.

On the Mechanical Appliances necessary for the Treatment of Deformities. By H. H. BIGG, Associate Inst C.E., &c. Part II. The Spine and Upper Extremities. London: Churchill. 1862. Post 8vo., pp. 303.

WE have here two works devoted to the consideration of deformities. That of Mr. Chance is the first part of a treatise intended to discuss not only the nature, causes, and variety of deformities, but also their treatment. The pathology and general doctrines are discussed in the present volume, which is complete in itself, the treatment being reserved for the following, which is announced as being in preparation. Mr. Bigg is an anatomical mechanist, and his book is devoted to the figuring and describing of the several mechanical appliances that may be made use of for the treatment of deformities. The present part completes the work, and describes the apparatus in use for deformities of the spine and upper extremities—the first having done the same for the lower extremities. It is evident that Mr Bigg is not only a clever artist, but that he has spared no pains to arrive at a correct knowledge of the principles by which his mechanical skill should be guided. His book is well brought out, and profusely illustrated, and to those seeking for information on the subject will be found very useful.

Mr. Chance defines a deformity as being—

“An original or an acquired deviation in the *skeleton* from the standard of its ordinary healthy development; its component parts being either altered in number, in structure, in shape, in relative position, or in the freedom of their movements over each other, so as to modify and disfigure the external form of the body, or to interfere with the proper exercise of the functions of the part, or with those of the part adjacent.”

It is evident that this definition is too restricted, and that by making the idea of deformity depend on a deviation of the skeleton it excludes many deviations of the soft parts, such as, for example, simple hare-lip and imperforate anus, and many of the varieties of

ectopia, which are entitled to be placed under this head, even in a "surgical sense," as Mr. Chance expresses it.

The causes of deformities as thus defined are clearly exhibited by Mr. Chance in a tabular form. He divides them into the congenital and the acquired; the congenital including those affecting, first, the ovum, viz.:—*a*, error in the primary impulse of development, or originally existing in the ovum—*b*, hereditary influence—and *c*, mental emotion of the mother during pregnancy; second, appertaining to the embryo—*a*, arrest of development—*b*, mechanical injury or interference with the movements of the embryo; third, as affecting the fetus—*a*, mechanical injury or interference with its movements—and *b*, disease acting directly or indirectly on its skeleton.

The acquired deformities, or those arising after birth, may occur in the child or the adult, and are divided into those acting, first, directly on skeleton—rickets and scrofula; and, second, those acting indirectly—*a*, through the exciting cause of muscular action, as spasm and paralysis—*b*, disease or error of the muscle itself—*c*, mechanical impediments, as contraction of skin, fasciæ, or ligament—*d*, deficient support, as relaxation of fasciæ or ligaments.

This arrangement affords a sufficient foundation for a systematic disquisition on all the deformities coming under Mr. Chance's definition, that is, having an immediate connexion with the skeleton. Yet there are several species that he has either omitted to notice or only glanced at cursorily, such as congenital dislocations, which are of such practical importance, and for the elucidation of which the Dublin School has done so much. The deformities arising from adhesion of the embryo to the placenta, of which the late Dr. Montgomery recorded, in our own pages, some interesting examples, we find no where alluded to; and the important physiological questions that have been raised by Vrolik and Allen Thomson, as to the true nature of double monsters, whether they are produced by the union of two ova or are the result of an excess of development in a single ovum, though they might have fairly claimed a portion of the author's attention, are left unnoticed.

Though the work is then not as complete as we would wish, yet it is one that we believe to be well calculated to do good service. The subject of monstrosities has long been shrouded in mystery, and played with by poets rather than investigated by philosophers. The researches of St. Hilaire and Vrolik, of Montgomery and Allen Thomson, and others, have, however, of late raised Teratology into a science, and Mr. Chance, following in their footsteps,

and extending their researches, has used the science for the explanation of the various congenital deformities coming before him as surgeon to the Orthopedic Hospital, while for deformities acquired after birth he has applied to the more familiar doctrines of Pathology, and by thus giving a rational explanation of the nature and causes of both classes, has laid the foundation for their successful treatment.

Of the causes enumerated as acting on the ovum to produce deformity, Mr. Chance has proved the reality of the first two that he assigned, viz.:—error in the primary impulse of development, or originally existing in the ovum, and hereditary influence—and illustrated their operation by many curious examples derived from both the vegetable and animal kingdoms generally, as well as from human subjects, but as to mental emotion of the mother during pregnancy, he utterly disbelieves in its having any influence, and shows that the cases that have been most recently adduced as proving its effect are quite inconclusive. He argues that the resemblance of the deformity to the assigned cause is so imperfect as to require a stretch of imagination to discover it, while the blemish exactly corresponds to that observed in other cases in which there has been no fright; that there is proof by analogy with the egg of the bird, that when once development has commenced the embryo is placed completely out of the range of the mental influence of the parent; that as the impregnated ovum is at first an isolated vesicle, moving about from spot to spot in the uterus, and having no connexion with it, and is afterwards connected with it only by the cord, in which there are not any nerves, and even the vessels of which are not continuous with those of the mother, there is no channel through which a mental impression of the mother could affect the embryo. Mr. Chance further shows that in an immense majority of the cases stated to be the result of fright, &c., the time of the occurrence assigned as the cause of the deformity in no way corresponds with the period at which it is now well known, from physiological investigation, that the deformity first originated.

We have now done enough to show the tendency and scope of the works before us, but we cannot quit this subject of the influence of mental emotion of the mother on her offspring without expressing our full concurrence with Mr. Chance in the belief that while the action of the exciting or depressing passions, such as excessive anger, joy, fear, grief, &c., may indirectly injure the fetus in utero

by exciting disease in the mother, for example—inflammation of the womb—and thereby giving rise to congestion and inflammation of the placenta, or even to disease and death of the fetus itself, yet the influence of such passions cannot give rise to any action in the mother which is capable of removing or altering the form or structure of a part of the fetus after it is once developed, either by causing its entire absorption, or by inducing an excess, irregularity, or arrest of development, so as to impress on the fetus in any degree the resemblance of the object by which the mental emotion was excited.

The illustrations of Mr. Chance's book, which are numerous, have, for the most part, been drawn and engraved by himself, from original casts in his possession. His work displays much learning, great research, and, by placing our knowledge of deformities on a thoroughly sound physiological basis, is fitted to be of great service to practising surgeons.

Manuel d'Anatomie Chirurgicale, Générale et Topographique. Par A. VELPEAU et B. J. BERAUD. Deuxième Edition, entièrement refondue. Paris: Germer Baillière. 1862. Fcap. 8vo, pp. 660.

Manual of Surgical Anatomy, General and Regional. By A. VELPEAU and B. J. BERAUD. Second Edition. pp. 660. Paris: Germer Baillière.

IN sending forth the long-looked-for new edition of his admirable treatise on Surgical Anatomy the Veteran of "La Charité" explains the reason of the association of his name with that of M. Beraud with all the simplicity characteristic of the true champion of science.

Distracted from anatomical pursuits, as he tells us in his preface, by occupations of a somewhat different nature, it became an impossibility for him to bring up his treatise to the exact level of the present time without the aid of some one more youthful than himself, and intimately versed in the modern fruitful researches in the subject. Under these circumstances M. Velpeau availed himself of the invaluable assistance of M. Beraud, who is already favourably known to the profession as a distinguished anatomist and accomplished surgeon.

We cannot express sufficiently warmly the admiration we feel for the disinterested love of science which has actuated M. Velpeau to expend his precious time in reproducing his *Surgical Anatomy*, as well as for the courage and industry displayed by M. Beraud in devoting his talents to remodelling and perfecting the edition of 1837. Such example is surely worthy of imitation, and, if only followed up, would lead to the preservation, and dissemination among the junior members of the profession, of the priceless experience of its elders. The work before us is worthy of its authors, and, although by no means voluminous, may be placed in the front rank of the literature of its kind. The system of arrangement adopted is simple and rational. The first hundred and fifty pages are devoted to general anatomy, and the remainder of the work to the description of the several regions of the body. The prefatory portion, or that consisting of general considerations on the structure, functions, and practical relations of systems and tissues, is executed with clearness, brevity, and yet all requisite detail.

The brief limits of a review preclude the possibility of our laying before our readers even a moderate quotation, as a specimen, from the original; so we shall content ourselves by instancing the manner in which each important subject is considered.

For example:—*The integumentary system* is divided into the *skin* and *mucous membranes*, and each of these is separately described. The skin is defined as the external covering of the body, which, by its property of touch, places man in relation with outward objects, and, by its capacity of resistance, protects him from injurious contact with them. Its liability to disease as well as to injury, both accidental and designed, is pointed out; and its interest to the surgeon deduced therefrom. Its further description is carried out under numerous headings, viz.:—Its external or free surface—its deep or attached aspect—its colour—pliability—elasticity—retractility—contractility—sensibility. Next are detailed its structure and mode of vascular and nervous supply; and finally, its appendages—glands, hair, and nails—are disposed of. During its consideration under each of these heads its relations to the diagnosis and treatment of disease are simply and judiciously pointed out.

The study of the skin concluded, that of mucous membranes follows. Then other systems are in like manner treated:—Serous, fibrous, muscular, osseous, articular, glandular, vascular, and nervous. We feel no hesitation in stating that the conception and execution of this portion of the work is quite masterly, and brings

the whole up to the last point of modern research. Those truthful generalizations from multitudinous observations, which belong to age and experience alone, are here incorporated with that refined knowledge of structures and functions which modern times have achieved, and the whole is placed before the reader in a most intelligible form, and in the simplest language.

The second portion of the work, or Regional Anatomy, is in no wise inferior to that which introduces it. We are struck at once with the improvement in the method of defining the regions of the body, as compared with the old edition of M. Velpeau's treatise. The want of clearness and simplicity in this particular was a great blot on the former edition, and we are pleased to see it mended in the present one.

Probably we shall succeed best in giving our readers an insight into the style of this portion of the work, by detailing the manner in which a region is treated. For example; the cranium is divided into the following regions, viz.:—1st, frontal; 2nd, parietal; 3rd, occipital; 4th, mastoid; 5th, temporal; and 6th, the base of the cranium. Each of these localities is then separately undertaken and examined. Let us select, as an illustration, the frontal region. First it is defined; then its situation, limits, extent, direction, and external conformation are described. Then its dissection, from the surface to the bone, is gone through in due order; commencing with the skin, proceeding to the subcutaneous areolar tissue, muscular and aponeurotic structures, periosteum and osseous skeleton. The arteries, veins, nerves, and absorbents, encountered in the dissection are fully described; and the analysis of the region is wound up by a *resumé* of the parts, enumerated in the order in which they are met, and a brief description of their mode of development. A vast body of practical information is incorporated with this anatomical demonstration, and all salient points of interest connected with the space are discussed. The method in which the various important regions and organs of the body are treated is similar throughout the book, and consequently the subdivision of each topic, being like to that of others, helps the memory, in place of embarrassing it, as we too often find the usually exaggerated classification of the French writers to do. It is unnecessary to prolong our review of this manual. We have said enough, we trust, to make others value it (which we do ourselves) as one of the most concise and perfect treatises on the subject. It is needless for us to remark that it is not intended nor suited for the junior student,

who requires rigidly systematic descriptions; but the advanced anatomist may learn from it the real value of his knowledge, and better still, the use to which he may turn that knowledge.

Of latter days it has become the fashion—and we confess, in our opinion wisely—to illustrate anatomical works: hence we were at first surprised that no such attempt is made in the manual of Velpeau and Beraud. However, the publisher, M. Baillière, in his notice at the commencement of the book, has satisfied our minds upon this subject. Anatomical preparations were actually made for the purpose by M. Beraud, and drawings from them executed by M. Bion; but, as the great reduction in size, requisite to adapt them to the present manual, would have seriously impaired their practical value, it has been arranged to publish them in a separate atlas, of suitable dimensions, which may form a companion to the various works on surgical anatomy. We look forward with great expectations to the appearance of such an atlas, which has long been a desideratum; and we shall conclude by remarking, that, if it keeps pace with the work we have just laid down, its author will be fairly entitled to the enduring gratitude of the profession.

The Pathology and Treatment of Venereal Diseases, including the results of recent investigations upon this subject. By FREEMAN J. BUMSTEAD, M.D., with illustrations on wood. Blanchard and Lee, Philadelphia. 8vo, pp. 686. 1861.

WERE we to act simply in obedience to our wishes, our review of this work would consist but of these few words—"Reader, buy and study the work." Many years have past since we met with a work so fully written up to the state of our knowledge of the subjects discussed in it, as this by Dr. Bumstead. However, as our readers might not be satisfied to take its merits on our mere *ipse dixit*, we shall endeavour to give them an insight into the manner in which Dr. Bumstead has discharged his task, and the order adopted by him in treating of subjects confessedly amongst the most intricate and obscure in our art.

In his preface, Dr. Bumstead announces that, the object of his labours is to furnish the student with a full and comprehensive treatise upon Venereal Diseases, and the practitioner with a plain

and practical guide to their treatment. In carrying out this design, theoretical discussions have been made subordinate to practical details, and in the belief, that the success of treatment depends quite as much upon the manner of its execution, as upon the general principles upon which it is based, no minutiae calculated to assist the surgeon or benefit the patient have been regarded as unworthy of notice: and in the body of his work he accordingly carries into execution the promises there held forth to his readers; no detail appears to him too insignificant to be recorded: the result of which is, that the young and inexperienced practitioner is put on a level with his more experienced brother, and thus enabled to put into practice from the start those all-important though seemingly minor manœuvres that make so marked the difference in practice between the tyro and the veteran, giving the latter such vast advantage over the former in conducting his case to a successful termination. Were we required to furnish instances of this, we would, amongst others, refer to Dr. Bumstead's valuable practical suggestions as to the manner in which injections should be administered in gonorrhœa, suggestions long since familiar to the experienced surgeon, and yet but too frequently neglected by him just entering on the practice of his profession; attention to which, however, will make all the difference to the patient, so far as a more rapid cure be concerned; and to the surgeon, so far as his reputation as a successful practitioner in this department of his profession is involved.

In this commendation, however, we regret to say that we cannot include his directions for the introduction of mercury into the system by inunction; these appear to have been copied from Sigmund, but high though his authority be, they do not come up to our views as to the manner in which this proceeding should be conducted, nor does Dr. Bumstead enter sufficiently minutely into this most important division of his subject: for instance, he makes no mention of the absolute necessity, that for many reasons exists, why, during such treatment, patients should wear drawers, nor do we approve of the frequent change of clothes recommended by him during the course; in our opinion, such being attended with the disadvantage of retarding the patient being brought under the influence of the mercury, and although it may appear repugnant to our notions of cleanliness to continue wearing the same pair of drawers for so long a period, still such a course undoubtedly expedites the reduction of the patient under the influence of the mercury, inasmuch as it keeps him as it were in a constant mercurial

bath, the friction of the drawers perfecting the absorption of that portion of the ointment which has escaped absorption in the process of hand rubbing; and to the suggestion of daily ablution, as recommended by Dr. Bumstead, we beg leave to record our unqualified veto. These blemishes, however, are but as spots on the sun when we take into consideration the able manner in which Dr. Bumstead has otherwise discharged himself of his task.

The introduction to his work is devoted to the consideration of the origin of the syphilitic disease, and in it we get much interesting information, not perhaps, of so novel a character as it is pleasing, from the easy manner in which it is written; this, however interesting though it may be to those curious in such studies, we shall pass by without further notice, as, in our opinion, this is a *questio vexata*, the solution of which can never be attended with any practical importance. The body of the work is divided into two parts: the first of which is devoted to the study of gonorrhea, its sequel and complications, including stricture; in this section, under the head of treatment, Mr. Bernard Holt's plan is disposed of in some half dozen lines, which do not even profess to describe this gentleman's mode of procedure; this, in a work put forward as an epitome of our present state of surgical practice, is unjust. Mr. Holt's method is still *sub judice*, and if but half the success that attended it in the hands of its gifted originator, await other practitioners in its use, the treatment of stricture will have been revolutionized in modern times.

The second section is devoted to the consideration of the chancroid, its complications, and of syphilis; in this we find an able *resumé*, given in as condensed a manner as is compatible with intelligibility, of our present state of knowledge on these subjects. Much interesting matter is quoted for our information from the valuable writings of M. Bassereau, one of the most distinguished pupils that have emanated from the school of M. Ricord, and though some views perhaps are put forward in the sustainment of which our author might experience some difficulty, still, on the whole, we must state that considerable information, judgment, and ability have been displayed in the manner in which the entire of this most difficult subject has been handled. In conclusion, we have but to repeat our recommendation of this work to the notice of all who desire to make themselves thoroughly up on this most important branch of our profession.

Traité Pratique de Médecine Légale. Par J. L. CASPER, Professeur de Médecine Légale à l'Université de Berlin, &c., &c. Traduit de l'Allemand. Par G. G. Baillière.

A Practical Treatise on Forensic Medicine. By J. L. CASPER, Professor of Forensic Medicine in the University of Berlin, &c., &c. Translated from the German, by G. G. Baillière. 2 Vols. Pp. 1,047. Paris: G. Baillière.

THE work before us is a French translation of Professor Casper's most valuable treatise on forensic medicine—for an English translation of which the medical profession in these islands is indebted to the New Sydenham Society. The estimation in which this work is held in Europe is significantly expressed by the fact that it has gone already through three German editions, while a fourth is in preparation—and that it has been translated into Italian, French, Dutch, and finally into English. The author informs us in the preface that he has endeavoured to purify his present work from all the “irrelevant rubbish” which had accumulated in previous works forensic medicine; that the contents of it are all derived from his own observations, and that rather than blindly copy what others on have declared before him, he has preferred frankly to confess his inability when his own experience has failed him in resolving some doubtful question. He tells us also that he has not devoted a great portion of his work, as most authors have done, to the consideration of medico-legal chemistry, as occasions for its application are, on the one hand, proportionally unfrequent, while on the other hand the German laws require, on such occasions, the intervention of *special* experts; and we consequently find, that out of 1,047 pages, contained in the two volumes, only 56 are appropriated to the consideration of poisons and their effects. Professor Casper's book will never, therefore, supersede the important works of A. S. Taylor; and by itself would always be of less value than *Taylor's Medical Jurisprudence*, because less comprehensive. We do not wish, however, to detract from the intrinsic merits of the work before us; the chapter on wounds—those on mental aberrations and individual responsibility, as well as those bearing on infanticide and abortion, are most interesting and important. Each chapter is headed by copious extracts, in the manner of aphorisms, from the Prussian Code of Laws, as the following, for instance, which is placed at the

commencement of the chapter on induced abortion:—"Pruss. Penal Code, Section 181. A woman who, being pregnant, shall induce abortion, either by external or internal means, or who shall destroy her offspring (*dans son sein*) in utero, shall be sentenced to penal servitude for a term of not less than five, nor exceeding 20 years; and any person who shall have aided and abetted such pregnant woman, either by suggesting the way, or supplying her with the means of procuring abortion, shall receive a similar sentence.

Ibid, "Section 182. Whosoever shall cause the abortion of a pregnant woman, without her consent, or shall have caused the death of her offspring, in utero, shall undergo penal servitude for a term of not less than five, nor more than 20 years. If the induced abortion should, however, cause the death of the woman, sentence of penal servitude for life shall be passed."

Such extracts are very superfluous for the medical jurist in these realms, even supposing that they correctly expressed the spirit of our own laws. The medical jurist at a trial in these countries has nothing to say to the application of the law, and the administration of justice; he is simply there in the capacity of an *expert*, to give his opinion on the case in question, and to aid the jurors in arriving at a correct verdict; the application of the law bearing on the case rests solely with the judge who tries it.

The work is divided into two portions, each contained in a separate volume, and named respectively the Biological and Thanatological section. The first relates to all those conditions which may become the subject of medico-legal inquiry during the life of the individual; the second relates to similar conditions after death. In the biological section are contained numerous examples of medico-legal investigation which would scarcely ever come under the consideration of a medical jurist in these countries. At page 12, of Vol. I., for instance, are to be found directions for the purpose of ascertaining whether a person condemned to imprisonment for debt is in such a state of health that imprisonment shall not endanger his life. Also, whether his state of health is such as might cause worry and annoyance to the other prisoners;^a and cites as an example the case of a horsedealer who was subject to prolapsus recti at each defecation, and where, in consequence of hemorrhoidal tumours the bowel could not be returned without difficulty and assistance. The

^a Si le malade est dans un état tel, qu'il soit pour les autres détenus, un sujet de tourment.

author adds, with great *naïveté*:—"It could not be expected from the other prisoners that they should perform this operation for him."

At page 40 commences the chapter on "Aptitude to Reproduction," headed like the others by extracts from the Prussian laws; and we were not a little startled by reading of the several causes which can justify a divorce in Prussia. Section 695 of the General Code of Laws says:—"If either husband or wife, singly or independently, shall voluntarily prevent conception, either during the act or after its accomplishment, and thus defeat the legal ends of marriage, it will be a sufficient reason for obtaining a divorce by the other party."

"Section 696.—Complete and incurable impotence—even if only arisen since the marriage contract—will equally give a right to divorce."

The chapters on "Loss of Virginity," violation, and sodomy, extending from page 72 to page 131, inclusive, are full of instruction and interest, but we prefer sending the reader to the original work for information rather than supply him with extracts.

The Prussian code of laws is evidently sceptic on the subject of very prolonged gestations, for we find at the head of Section 2, on pregnancy, the following extract:—"Civil Code, Art. 315. The legitimacy of a child born 300 days after dissolution of a marriage may be contested." Professor Casper, at page 152, says that although pregnancy may be protracted to 300 days, "those longer periods of 11, 12, and 13 months which have been cited are not deserving of any belief. In Great Britain the law has not fixed a limit to the period of utero-gestation; and in America a case was tried, in 1846, where a child born 313 days after legitimate intercourse, was declared not to be a bastard.

A large portion (nearly 200 pages) of Vol. I. is devoted to the consideration of modern legal questions in relation to mental alienation. This is one of the most important sections of the work; but the limits of this review forbid our entering into it as freely as it deserves; and a few extracts would not convey any adequate idea of its merits; we, therefore, again address our readers to the original, which, thanks to the New Sydenham Society, is now within reach of every one.

Having now finished with the Biological Section of this important work, we commence the second volume, or the Thanatological Section. The first 100 pages are occupied with the consideration of the several signs of death; of the object and mode of conducting

post mortem examinations; of the appearances presented by dead bodies at different periods after death, and after being exposed to different conditions—such as buried in the earth, exposed to the air, or submerged under water, and in cesspools and privies. On the appearance of wounds—clean cut, or contused; whether inflicted before or after death; followed by several interesting cases of severe internal injury, unaccompanied by any external visible lesion. The author then passes to the consideration of blood-stains, and the mode of determining them; dwelling on the great difficulty of distinguishing, even by aid of the microscope, between human blood and that of other mammalia.

At page 162, Vol. II., are to be found several important directions as to the making of cadaveric sections; and our author commences by recommending that in all examinations of newborn infants the abdomen should be the first cavity opened, as in these cases it is of great importance to examine the condition of the diaphragm before opening the thorax. The author recommends, also, that in examining the base of the cranium, “one must be careful not to omit peeling off the periosteum, otherwise the presence of minute fissures of the bone may be passed over undetected.” In the section of the work devoted to burns, the question of spontaneous combustion is ably discussed, and finally consigned to the realms of fiction and romance.

At page 256 is a very interesting case of a man condemned to seven years penal servitude, who determined to commit suicide by starvation. He had been abstaining from food for five days when Professor Casper was consulted about his case. He says:—“I approved of the measures which had been taken, and which consisted in placing him in the same room with two other prisoners, condemned for short periods only, and whose business it was to constantle watch the prisoner, and prevent him from committing suicide.” If we had not this information from so trustworthy a writer we would at once disbelieve it; and even as it is we find considerable difficulty in reconciling this statement with the well-known state of civilisation in Prussia. Here was a man in a state of mental alienation trying to commit suicide; and, instead of placing him in the infirmary of the prison, under the watch of a paid official, he is intrusted to the care of his co-prisoners. But let us proceed, for the sequel is even stranger:—“I found him lying on some straw (!). He had tasted absolutely nothing for five times 24 hours. He was pale; but not more so than those others

who had been imprisoned as long as himself. His features were somewhat drawn; his eyes were rather dull; the temperature of his body was normal. . . . His head was clear. . . . He told me he suffered neither from hunger nor from thirst. He passed very little urine, and no stools. All my exhortations failed in changing his determination—he persisted in refusing both nourishment and medicine.” What the idea was of suggesting medicine we cannot tell. On the following day, however, the ingenious physician of the establishment succeeded in making the would-be suicide take a few drops of ether!! He had now been seven days and nights without food or drink. “He had grown thin; he tried to read his Bible, but could not, being troubled with flashes of light before his eyes, and incessant buzzing in his ears. His tongue was dry and purple in the middle, whilst on the edges it was covered with a viscid mucus.” The eighth day came and went, and the physicians did nothing to avert impending death; the ninth day came, and also the tenth, and still no food entered his mouth, nor did his physicians exert themselves beyond tempting him with a little *ether*—when suddenly, on the eleventh day, hunger seized him, he ate, and saved his own life. Are we to infer from this extraordinary account that lunatics who, in Civilised Prussia, refuse to eat, are allowed to die of inanition?—that the use of the stomach-pump, in such cases, is unknown? Or are we, rather, to gather, that from a love of scientific research this wretched man was allowed to starve himself in order to see how long a man could possibly live on without food? In either case the answer must be unsatisfactory:—Ignorance, in the first case; attempt at murder in the second. It is an ill wind, however, that blows nobody good! and we find recorded, for the advancement of science, that a man can live without food for 11 days, without much danger; that he only feels hunger during the first three; and that the urine he passes during his abstinence contains the full proportion of urea.

We could considerably prolong our examination of this work if time and space did not forbid us; but we must draw to a conclusion, and refer to the original, or one of its many translations, those of our readers who desire to see what Professor Casper has to say on toxicology, asphyxia, hanging and strangulation, drowning and death by chloroform—upon all which subjects the student of forensic medicine will find abundant and interesting information in the two ample volumes we have been reading.

The Autobiography and Services of Sir James M'Grigor, Bart., late Director-General of the Army Medical Department. With an Appendix of Notes and Original Correspondence. London: Longmans. 1861. Post 8vo, pp. 418.

Memoir of Baron Larrey, Surgeon-in-Chief of the Grande Armée. From the French. London: Renshaw. 1861. Post 8vo, pp. 256.

THERE is a peculiar appropriateness in bringing together the memoirs whose titles stand at the head of this article. The subjects of them were contemporaries. Born within a few years of each other, they entered into the service of rival armies at about the same period, where, by their zealous labours in the promotion of medical science, and their devotion and energy in the management of their departments, they not only acquired for themselves the esteem and highest commendations of their respective Generals, but succeeded in alleviating, in a great measure, the horrors of war. Thus honoured and distinguished, they serve as prominent and instructive beacons, to guide and encourage all entering on the same career, as that in which they so eminently distinguished themselves.

Sir James M'Grigor, born in 1770, was the eldest son of Colquhoun M'Grigor, a merchant in Aberdeen; he was educated in the High School of his native city, and here acquired his first honour, in having, at an examination at the conclusion of his five years' course, the first prize awarded to him, in the presence of the Lord Provost, Magistrates, the Professors of the University, and the Clergy of the City, an event, as he often afterwards recounted, the most joyous of his whole life, and which filled his breast with more pride than did any of the many honours he received in after years.

From the High School he entered Marischal College, where he graduated as a master of arts. His father now wished him to follow his own avocations, and succeed him as a general merchant, but the companionship of students and his own inclinations led him to prefer entering on the study of medicine, and his parents did not baulk his choice. For a time he studied at Aberdeen, then went to Edinburgh, where he was elected a member of the Medical Society, and on his return to Aberdeen at the end of the session in 1789, he, in concert with a fellow student, Dr. Robertson, laid before a

meeting of the students, the plan of a medical Society for that city. In this society, which now takes a considerable place in the literary institutions of Aberdeen, he never ceased to take a warm interest, having, by his own subscriptions and donations of books, and by continued warm importunities of his numerous friends, obtained no small portion of the funds required for the erection of the handsome building it now possesses, and which contains its valuable library, museum, &c.

Having completed his studies at Edinburgh, it was determined that he should become a general practitioner in London, and he proceeded thither in 1793 with that intention. By this time the war of the revolution commenced against France, and he determined on serving as a medical officer in the army. He accordingly negotiated through Mr. Greenwood, of the Army Agency House of Cox and Greenwood, for the purchase of a surgeoncy in a regiment (the 88th or Connaught Rangers) then being raised by General De Burgh, afterwards Earl of Clanricarde; but having heard that it would be an Irish regiment, he objected to enter it, till urged to do so by Mr. Greenwood, on the grounds that "Scotchmen would soon make their way in an English or Irish regiment, but in one of their own corps there were too many of them together, and they stand in the way of each other." But, though merely *Irish*, with the exception of their Scotch surgeon and an English major, Sir James soon saw reason to believe "there never was a finer set of young men, with more the appearance of being the sons of gentlemen, congregated in any corps in his Majesty's service,"—a circumstance which, along with the events that followed within a few days of his joining the regiment, might well have induced him to forego recording in his autobiography this piece of silly clannish boastfulness.

In 1794 his regiment went to Jersey. The French revolution was now at its most bloody point, Robespierre was in full sway, and the island teemed with French exiles. Every day boats arrived with fugitives, each boat bringing accounts of fresh victims to the guillotine—frequently the husbands, brothers, fathers, or sisters of some of the unfortunate refugees who watched the arrivals from France; but though the grief of many of these was great, its duration was not always excessive, as the following anecdote will show:—

"I remember a pretty, engaging Frenchwoman; one of the numerous female refugees whom we had in the island at that time, a Marquise, who

was in the society of the officers' ladies of the Connaught Rangers or 88th regiment. One of the boats which arrived from Granville, among other accounts of a deplorable nature, brought that of the death of this lady's husband, who had fallen by the guillotine. On first hearing the sad tidings, the grief of the Marquise was excessive; she was inconsolable. The ladies of our officers, uninvited, went to her lodging; and some of them remained constantly with her. At this time the Lieutenant-Governor was about to give a grand ball to all the fashionables of the island, to the military, and to the chief of the French refugees. Some time before receiving the account of her husband having been guillotined, the Marquise had received a card of invitation from the Governor, and had accepted the invitation. She not a little astonished the ladies who visited her for consolation, by asking them on the third day after she had received accounts of the Marquis being guillotined, 'if it would be proper for her to go to the Governor's ball in mourning.'"

Soon after arriving in Jersey the regiment suffered severely from typhus, that plague of armies, from which, in the first year of the war, the English army lost many thousands. After some time Sir James was himself prostrated by it, and nearly became one of its victims. From this his convalescence was slow, but was marked by a pleasant incident, showing how even the common soldier can appreciate the services of the kind and efficient medical officer. It was determined to move him into the country, but a difficulty arose as to how he should be removed, his debility was so extreme. The soldiers hearing this, said they could carry him much more easily than he could be drawn, and expressed so much solicitude to carry "the doctor," that their plan was acceded to, when they exerted themselves to the utmost, to carry him with the greatest ease to himself.

From Jersey the regiment proceeded to Ostend, to take part in the Dutch campaign of 1794, so disastrous to the British. On the voyage they were becalmed, when a series of visitings took place between the several vessels, and Sir James had again a narrow escape, one of the ships in which he was visiting having been set on fire by the carelessness of a sleepy sailor, when a scene of the greatest confusion and disorder ensued. After rather a long passage they went up the Scheldt to Bergen-op-Zoom, where the typhus again broke out with increased violence, affecting not only the 88th but the other British regiment stationed there. The havoc amongst them was great; every place that could be obtained through the magistrates was occupied for the accommodation of the daily over-

whelming increase of sick. But even so, the space was sadly deficient. At length Sir James, determined to provide for his sick, took the matter into his own hands, with a degree of energy and self-reliance that, in these days of routine and shrinking from responsibility, we cannot but admire, notwithstanding his having been haunted in consequence.

“One day, I espied a Calvinistic chapel; I then got a sergeant’s guard, and while the congregation were engaged in the afternoon service, made the sergeant place two sentries at each door. When the congregation dispersed, we took possession of the church. The minister, a very aged man, with his elders, first remonstrated with me, then entreated; and at length in great wrath denounced my proceedings. After this our sickness increased; our mortality was frightful; and both myself and my only assistant Mr. Nicol became severely ill: and when ill, I could not get the aged clergyman, with his snow-white locks and imploring attitude, from before my eyes.”

Those who wish to know something of the sufferings of an army obliged to retire before a closely pursuing enemy, through a country whose inhabitants have been enraged by the bad treatment they have experienced at the hands of their would-be allies, may in these pages find a picture of them such as more pretentious historians fail to supply.

Arrived in England, after the retreat from Holland, the regiment was sent, along with several others, to Norwich, where the turbulent state of the population, and the prevalence of the revolutionary feeling which had found its way from France into England, rendered the presence of a large garrison necessary. Again typhus made its appearance, rendering necessary special arrangements for meeting it, and Sir James was appointed superintendent, an office he continued to hold till the regiment was ordered to march to Southampton to form part of an expedition, under General Abercrombie, for the capture of the French West India Islands. The 88th was now under a new commanding officer, Lieutenant-Colonel, afterwards Field-Marshal Beresford, and the first contact of Sir James with him was not of the pleasantest, but his firmness and the faithful discharge of his duty brought him triumphantly through the crisis:

“With the constant arrival of recruits, not in the cleanest state, accompanied with numerous families, I saw the probability of the re-appearance of an old enemy—the typhus—from the habitual drunkenness

and other irregularities of the men. There was much fever prevalent, which I foresaw would degenerate into typhus, and I did everything to keep the hospital sweet and well ventilated. I think that I succeeded, for its clean and cheerful appearance attracted the notice of all the officers.

“From the hour the new Colonel arrived to take the command of the regiment, his temper appeared bitter, and his conduct harsh; he was perhaps dissatisfied with the state in which he found the regiment. On his arrival, he found the hospital full, and many sick in barracks. By his order, I waited upon him every morning with a report of the sick of the corps. He was always discontented with it. One morning, when I found the Adjutant and Quartermaster of the regiment with him, he appeared unusually out of humour. He neither noticed the bow I made on my entrance, nor desired me to be seated. After remaining standing for a few minutes, I helped myself to a chair, and sat down. Soon after, he took the sick report out of my hand, and perusing it, said, ‘This state of things must not continue; I will not have such a number of sick in my regiment, and I am sure the greater part of them are not sick.’ I felt strongly at that moment the contrast between him and my former commanding officer. I was much moved, and said in reply, that ‘it was not my fault there were so many sick in the 88th regiment; all I could do, was to cure them as fast as I could;’ and, as to not one half of them being sick, I affirmed that every one in the report in his hand, was sick. In the sharpest manner, and with an oath, he said they could not be; and that malingerers deceived me. I, as positively, and in warm terms, denied this; and I added, that so long as the regiment continued in its present state, the sick would increase, and they would soon be doubled. He asked what I meant. I said that the irregularities which prevailed would occasion an increase, and from the filthy state of the temporary barracks, which at the same time were not weather proof, they were a nursery for disease. He desired me to make good my words; and, hurrying out with the Quartermaster and Adjutant, he went through all the barracks, cooking-houses, &c., making a minute survey of each, loudly and angrily calling as he passed through each, for the officers of each company; and giving no small portion of abuse to most of them, for not having strictly reported the state of things. When, after two hours of this unpleasant duty, he had gone through the whole, I begged that he would now accompany me, and see the only place over which I had jurisdiction—the hospital. He passed in silence through the different wards, but this I felt I could not permit; I called upon him to say if he found fault with the condition of things here. He confessed he could not. He did more; for when he went out, he desired the officers commanding companies to go in, as he had done, and view the comfort

men could be placed in, and mark the contrast. Still he did not express himself satisfied, and I fancy he felt my discontented, cool manner towards him; and on the following day, when the regiment was on parade, he sent a sergeant for me. I was at the hospital, and proceeded to him immediately. In the front of the regiment, he demanded the reason why I chose to absent myself from parade. I told him there was an assistant-surgeon present, and that I was employed in what I considered more important duty, viz., attending the sick in hospital; which duty occupied me some hours morning and evening, and, further, that the rest of the day was occupied in visiting the numerous sick in barracks, viz., the women, children, and officers. He told me it was his order that the surgeon should always be present at parade. I bowed obedience.

"Seeing the different kind of life I was likely to lead under such a man, I determined in my own mind to quit the regiment; and with this view I wrote to Mr. Macdonald, our agent, to procure an exchange for me into any other corps; and that, to accomplish this, I was ready to pay a moderate sum of money to any officer who would exchange with me.

"About this time, my brother, then a lieutenant in the 90th regiment, who had just landed at Portsmouth from America, came to visit me. He was most kindly received by my friends, the officers, and was my guest at the mess. To him, as well as to some officers of the corps, I had communicated my determination to leave the regiment. The officers all warmly regretted the decision I had come to; but as the circumstances which led to it were generally known, they could say little to dissuade me. At any rate my resolution was taken. A few days after my brother had joined me, when the officers were walking and talking together, before parade, the Colonel called me to him and I joined him in his walk. He observed: 'Your brother is a very fine young man, and I should much like to have him in the regiment. I am sure, that will gratify you, and I shall be happy to do anything to afford you pleasure.' I thanked him; but said that would not gratify me, for I was about to quit the regiment. He appeared struck; and with surprise said, 'he hoped not.' I told him that I was now in negotiation, through the agent, to exchange into another corps. He asked what regiment? I replied, 'I did not know, and did not care; any regiment; for I was sure my exertions would be better appreciated in any other; and that I was sure he must know I could not but feel what had passed since he had assumed the command of the 88th.' Nothing further passed; but in an hour or two after he sent for me to his quarters, took me by the hand on entering, and expressed his sorrow, if, in the dissatisfaction he felt at the state in which he found the corps on his joining, he had spoken warmly to me, for that really my department of it was the only one of which he could

say anything favourable, and that he had so reported to the Horse Guards. In short we became friends, warm friends, and continued so ever after."

By some strange misadventure, Sir James got separated from his regiment, and was carried off to Barbadoes, where he arrived long before the remainder of the expedition, the ship in which he was to have sailed having, in the meantime, been captured by the French. He was appointed to hospital duty, till the arrival of his regiment, and the commencement of active services, when he was put in orders as head of the medical staff, and before long was brought under fire, a fire hot enough to satisfy the longings of even "combatant" officers, to say nothing of a "non-combatant." In an attack on a strong position the party pushed past a body of the enemy unawares, and got almost completely surrounded, so that a retreat became necessary.

"Major Houston endeavoured to bring off our men, and retreat in order; but this was impossible. As the men fell, or were wounded, the latter were brought to me under a tree. While employed in dressing their wounds, the situation being rather an exposed one, a gun was opened on it, and one shot killed two of the wounded close to where I stood. I felt something moist on my face. At the same time that I observed the two poor fellows dead, and terribly mangled close to me, a sergeant came up to me, and taking me by the arm, told me I was wounded; and he would assist in placing me on the grass. I said, I believed I was not wounded, but as he insisted, I was placed on the ground, where on rubbing my face, I found it covered with the blood and part of the brains of one of the poor fellows near me; and getting up, I convinced the sergeant that I was not wounded. In a very little time after this I found the men and officers in rapid retreat, and passing me. I lost no time in joining them, and I confess I never made better use of my legs. At one part of the road which we had to pass at an angle, the enemy poured in several volleys upon us, and many men fell. I was then close to Lieutenant Mc——, now Major-General Mc——, and I never saw a hotter fire. The bullets absolutely tore up the ground close to us on each side, and even between our legs; how we escaped was to me a miracle. At length another corps, I believe the 29th, came to our support, and checked the pursuit of the enemy. We then re-formed, and finally our little army, commanded by General Nicolls, beat back the enemy, and dispossessed them of all the ground they had gained from us, bringing them back to their own position."

The capture of the French possessions in the West India Islands

being completed, the detachment of the 88th were soon ordered home, and sailed in a crank old transport, far from seaworthy, short of provisions, and badly manned. The captain died from yellow fever before they sailed, and the mate soon afterwards, when the second mate took the command of the vessel, and he, it appears, proved not only grossly ignorant of navigation, but also grossly intemperate. After undergoing many hair-breadth 'scapes, it was determined to depose this worthy, and as among the officers there was one who, before entering the army, had served for some years as a midshipman in the navy, the command of the ship was conferred on him. His knowledge of the sailing art was not, however, very profound, for, notwithstanding that he took daily observations with all the externals of a skipper on him, they found from a vessel that they spoke that they were close to Liverpool, when he had declared they were in the Downs. Putting about, on this intimation, they next found themselves at Cork, where they landed, and spent several weeks, after which they sailed for Portsmouth, where they were at once placed in quarantine, the authorities ridiculously forgetting, Sir James says, that they had been several weeks in Cork, and ignorant of the fact that several of the officers had been on shore during the night.

They were not permitted to remain long in England, but were ordered off to India, embarking at Portsmouth on Christmas-day, 1798. On his arrival in Bombay, Sir James found that his position in point of emolument was a very comfortable one, and hereupon he indulges in a strain of reflection on the position of medical officers in the army. Breaking through the chronological order he has been following in his autobiography, he records, in the following words, the conclusions at which he had arrived as the result of his mature experience as Head of the Medical Department of the Army. In the present day, when the Authorities have been so weak as to yield to the impertinent jealousies of the so-called combatant officers so far as to violate the compact entered into by the warrant of 1858, it is fortunate to have this announcement of the views of one so wise, so experienced, and so highly esteemed as Sir James M'Grigor. A violation, the blind fatuity of which, in the face of the experience of the revolutionary war, and the Crimean campaign, cannot be accounted for:—

“I found, as I was led to expect, that when the regiment was collected together, my situation in point of emolument would be a very comfortable one; and in truth, considering the drudgery to be undergone, and the

excessive labour which falls on the medical officer who thoroughly does his duty, he ought to have a high reward to look to.

“The advantages of medical officers in the service, during the last forty years, have, it is true, been greatly increased; but Government was compelled to increase them, because, soon after the commencement of the revolutionary war with France, the greatest difficulty was found in obtaining those who were qualified for the duties. It was at one time found absolutely necessary to advertise for them; and in fact to beat up for them, offering present pay and good quarters. Placards were posted on the college gates of Dublin, Edinburgh, and Glasgow, offering commissions to such as could pass some kind of examination; which, if passed, immediately entitled them, under a warrant from the army medical board, to pay and quarters. They had, moreover, all their travelling charges defrayed from the place whence they came. This was continued for many years; indeed till nearly the close of the war; and it was the occasion of many uneducated and unqualified persons being introduced to the service, not a few of whom, in quarters where the promotion was rapid, found means to pass through different grades to the rank of regimental and staff surgeon. Not a few apothecaries, and even druggists' apprentices, found their way into the service in this manner.

“I ought not to omit stating that, whilst a number of most deserving, although ill-educated young men, thus gained admission into the service; from the increase of pay and half pay, and other advantages, which Government found it necessary to concede from time to time, and to increase, the encouragement then held out induced likewise many men of finished education and great endowments to enter, who redeemed the character of the medical officer with the army in general.

“It is not only in the sense of humanity, but in that of a sound policy and real economy, that the State should provide able medical and surgical advice for the soldier when sick or wounded. I look upon it to be an implied part of the compact of citizens with the State, that, whoever enters the service of his country as a soldier, to fight its battles, should be provided with the same quality of medical aid, when sick or wounded, which he enjoyed when a citizen. In every large town, whence the great bulk of recruits is drawn, there are public hospitals and dispensaries, which, supported by the subscriptions of the rich, are always open to the sick and poor, and to persons of the middle classes; in fact, to those ranks in life from which the soldier comes. The physicians and surgeons of these public institutions are always the ablest men in the profession of medicine. After the enjoyment of such medical aid the soldier should not, therefore, be consigned to the ignorant and uneducated of the profession; he is clearly entitled to the same quality of medical advice as when he was a citizen, and is not to be put off with a cheap article of a

doctor, and with one who could not afford the expense of a regular medical education.

"With a full knowledge of the subject, and strongly impressed with the circumstances which I have stated, and which I have witnessed hundreds of times; when I came into office, as head of the department, at the conclusion of the war, my first object was to find a remedy for this great evil."

From Bombay the 88th went to Ceylon to take part in an expedition about to be organized against Batavia, but their destination was suddenly changed, and they sailed for the Red Sea, under the command of Sir David Baird, with a view to effecting a junction in Egypt with Abercrombie, who entered from the Mediterranean. Sir James had made many influential friends in India during his short sojourn there, and he was appointed Medical Superintendent of the expedition, this being the first instance of an officer of the King's service being placed in charge of the Company's army. It is not necessary to dwell here on the crossing of the Desert, the plague, and the other incidents of this expedition, as they are already sufficiently known from the "*Medical Sketches of the Expedition from India to Egypt*," a work composed during the home voyage, and published soon after Sir James arrived in England.

He was now gazetted to the Horse Guards Blue, when he left the 88th with feelings of profound regret. The Blues at this time were stationed at Windsor, and attracted a great deal of attention from the King, who expressed a desire to have a troop in the corps, and the Queen gave a series of balls, to all of which Sir James was invited, but his enjoyment was not a little marred by military etiquette.

"In the first ball at the Castle I appeared in what seemed to me the proper dress for me—the uniform appointed for me by his Royal Highness the Duke of York, commander-in-chief of the army. In the course of the evening I observed that his Majesty had eyed my dress much. On the following morning, Colonel Dorrien, who had acted as silver-stick, informed me that his Majesty had noticed that I had appeared at the ball not in the full dress of the corps. When I stated to the colonel that the dress I had appeared in was that appointed by the regulations for the surgeon of the corps, Colonel Dorrien expressed his satisfaction. Thinking I was quite correct, I appeared at the second court ball in my uniform as surgeon, which was without lace and without a sash. Colonel Dorrien sent for me on the following morning to express to me his Majesty's

dissatisfaction that I should have appeared at the ball in any other than in a full dress suit of the uniform of the regiment; and the colonel said that, if invited again, he recommended that I should either go in a full dress suit, or not go at all. For the third time I received, through the vice-chamberlain, his Majesty's commands to a ball at the Castle, when I determined to appear dressed according to the desire of his Majesty. The full dress of the officers of the Blues was a splendid, I may say a gorgeous one, and very expensive; the coat alone, I believe, cost twenty-eight guineas. I therefore borrowed the coat and sash of my friend Captain Kingsby, and my appearance seemed to be to the satisfaction of the King, but not so of the Duke of York. I happened to stand opposite to him for some time, looking on at a dance, and he appeared to eye my dress so curiously, that I felt as if he had said: How came you here not dressed according to the regulations? On mentioning this to Sir Henry Torrens, who was present, he promised to explain to the commander-in-chief why I appeared as I did, and that it was by express desire of the King."

The easy life of the "Blues" was soon exchanged for the more arduous one of Deputy Inspector-General, to which he was promoted. The attention of officers holding this rank had hitherto been directed more to the financial economy of hospitals than to the cure of the sick, and the chief duty of a regimental surgeon appeared to be that of an accountant, and he was most applauded who was most correct in accounts, and the greatest economist in oatmeal, salt, barley, &c.; but Sir James introduced a new system, with a view to turning the reports and returns made by the surgeons and assistant-surgeons of each regiment to the purposes of scientific information and improvement. A minute attention to the professional part of his duties was impressed on each medical officer; he was urged to make use of the fine field for experience and observation that lay before him, one that presented peculiar advantages for trying the effects of all new remedies or modes of treatment, because of the perfect control under which the patients were placed, and where personal and friendly intercourse and advice failed to produce a proper appreciation of these advantages, the weight of official influence was brought to bear. Under this system the state of the medical department of the army underwent great improvements, and the army can now boast of men of the highest literary and scientific attainments and practical skill, notwithstanding that the inducements to idleness and dissipation are, from various circumstances, not a few, and that the obstructions to scientific research, caused by the routine and the vagaries of "rigid

disciplinarian commanding officers," are numerous. Sir James records some very amusing examples of these obstructions as occurring to him at this period of his career.

The zealous performance of the extensive and onerous duties that devolved on him as Deputy Inspector-General, pointed out Sir James as the "right man" to be placed in all situations of special difficulty, and requiring more than ordinary ability. Accordingly, we find him promoted rapidly. From the limited district in which he first had the Inspectorship of Hospitals, he was moved to a much more important one, where he had to make arrangements for the embarkation and arrival of many expeditions. Among the rest he had to receive the remains of Sir John Moore's army after the retreat from Corunna, when the number of sick and wounded was overwhelming, and barracks, naval hospitals, temporary buildings, and ships, had to be fitted up for their reception, and a large staff of medical officers and private practitioners had to be collected. This duty accomplished, his services were next demanded to organize a medical staff for the Portuguese army; but before he could proceed thither, a more urgent and pressing call presented itself from Walcheren, where there was an amount of sickness and mortality hitherto unknown either in our fleets or armies. His Majesty's ship the "Venerable" was ordered "to proceed instantly with the doctor to Walcheren, and take with him any medical officers who may come in by the coaches this morning." In half an hour Sir James was on board, but the voyage was a most disastrous one, the ship being wrecked on sand banks off Flushing, and the lives of all placed in the utmost peril for several hours. Arrived at Walcheren he found the stores of drugs and medical comforts exhausted, and had at once to take measures for obtaining fresh supplies. This he was fortunately enabled to do, by the opportune arrival of an American ship having such things as were most wanted on board, and which he ordered the purveyor to purchase.

After the miserable remnant of this fine army returned to England, Sir James, whose services were particularized in the despatches as having been "most unremitting and praiseworthy," was prostrated by the fever, the seeds of which he had carried home with him. Recovered from this he resumed his duties at Portsmouth, and married in 1810, but was not permitted to remain very long to enjoy domestic life, as one morning the London post, suddenly and unexpectedly, brought him orders to prepare for embarkation for the Peninsula, as chief of the medical staff under

the Duke, then Lord Wellington. In the Duke's despatch he demanded that he "should have the most active and intelligent person that could be found," and the Commander-in-Chief, the Duke of York, at once ordered Dr. M'Grigor to proceed to the head quarters of Lord Wellington, and wrote to his lordship expressing his confidence that in the officer he sent him he would find all he could desire. An estimate of his thorough efficiency fully verified, as shown by the terms in which the Duke of Wellington wrote of him at the close of the war, saying, "I have every reason to be satisfied with the manner in which he conducted the department under his direction, and I consider him one of the most industrious, able, and successful public servants I have ever met with."

The account Sir James gives us of his experience in the Peninsula is most interesting. The stories of his personal adventures, and of his intercourse with the Duke and others, and his anecdotes of the various sieges and battles, and of the marchings and counter-marchings, afford a most vivid, and no doubt truthful picture of the campaign, and exhibit, in new lights, the character and amazing abilities of the Duke; but our space does not permit us to dwell on them.

After the Allies had got possession of Paris, and peace was proclaimed, he visited Montpellier, wishing to examine the French hospitals, but was prevented seeing the military hospitals by the jealousies of the French surgeons, so he at once proceeded to Paris, where he called on Baron Larrey, whose acquaintance he had previously made in Egypt, and by him he was brought through all the Paris hospitals, and afforded every facility for studying the French systems, an examination from which he came away with the conviction that, except the ambulances, there was nothing in them worthy of being adopted into the English.

Arrived at home, he had the honour of knighthood conferred on him, and he contemplated retiring from service on an allowance of £3 a day that he had been awarded for special services, and commencing private practice in London; but, before his plans were matured, a vacancy occurred at the Medical Board, and he was appointed President of it (1815), and soon afterwards obtained the entire control of the Medical Department of the Army, as "Director-General," having, by his unrivalled industry and unflagging earnestness and perseverance, and by his skilful and honest discharge of his duties, raised himself to the highest position in the service.

This position he held till 1851, and, while holding it, he devoted himself to the carrying out of the reforms, of which his long experience in the ranks taught him the necessity. He now received numerous additional honours; he was made a Knight Commander of the Tower and Sword of Portugal, for his services in the Peninsular campaign, and was also permitted by his Sovereign to wear the Turkish order of the Crescent for the part he bore in the Egyptian campaign. In 1831 he was created a Baronet, and in August, 1850, invested with the order of a Knight Commander of the Bath, and in addition to these and other royal and public favours, he was elected into several learned societies. With his appointment to the Medical Board in 1815, his autobiography ceases; but the editor has added a supplemental chapter, with the following extract from which we must leave Sir James M'Grigor, that we may apply our remaining space to the life of Baron Larrey:—

“Thus, in 1851, began Sir James M'Grigor's retirement. Entering the army as Surgeon of the Connaught Rangers, in 1793, he quitted it as Director-General in 1851. He had spent nearly fifty-seven years of his life in active employment. As night succeeds day, so rest must sooner or later succeed labour; and more than half a century of labour did certainly need repose. About seven years of life still remained to Sir James M'Grigor, during which, though in the course of nature greatly enfeebled in bodily health, he enjoyed that peace of mind which was doubtless the result of a conscientious discharge of all his duties. The urbanity of his manners, the benevolence of his disposition, and the simplicity of his heart, drew around him, for the remaining years of his life, a circle of friends, in whose cheering kindness and attentive solicitude, as in the devoted affection of the members of his family, he found enjoyment. Thus the current of those later years was calm and tranquil. Few men had seen pain, disease, and death under more violent and hideous aspects than Sir James M'Grigor; he had personally passed through many perils of shipwreck, siege, and battle; yet, by the blessing of good general health, combined with a sound mind, of an equanimity seldom ruffled, under the benificent will of a Higher Power, the long current of his life ran itself gradually out, becoming even more smooth towards its close. He died in London on the 2nd of April, 1858, about seven days before the completion of his eighty-eighth year, without pain, and almost without disease; for the gradual extinction of the powers of nature can scarcely be called disease.”

The memoir of Larrey comes before us without any intimation as to who the writer of it may be, or what means of information he

may have possessed. The title page simply says, "From the French." Even the name of the translator is not communicated. It is probable, from internal evidence, that neither author nor translator belongs to the medical profession; nor is there anything like the amount of personal anecdote and illustration in the book that is to be found in the *Autobiography of Sir J. M'Grigor*; yet it is exceedingly interesting, and displays well the busy active life, the energy, devotion, and enthusiasm of Larrey; his self-denial, and his loyalty to his duty and to his leader. But it makes no mention of a circumstance that displays his character in a light more honourable than all the writer has recorded. It was during the retreat from Acre to Jaffa, where had taken place, shortly before, the frightful massacre of 4,000 prisoners, who, notwithstanding that they had laid down their arms on the assurance of their lives being spared, were marched out on the plains, firmly fettered, and shot down in cold blood—that Napoleon, feeling incumbered by his own sick, whom he could not carry with him, again proposed to rid himself of a burden by putting them to death, and suggested to Larrey that he should administer poison to them in their medicines; but Larrey, true to himself, replied in terms ever to be remembered, and which in a memoir of him should not have been omitted, saying:—"My vocation is to prolong life, and not to extinguish it." The poisoning was effected by other and less scrupulous hands, and about 60 victims fell to it. Napoleon afterwards defended the act on the plea that they were hopelessly ill of the plague, and that within an hour they would have fallen into the power of the Turks, who were barbarously putting all their prisoners to painful and lingering deaths; and historians—even Alison—admit that the circumstances justified the act. But history must ever record with admiration the answer of Larrey, and his loyalty to his Profession, even to the risk of losing the favour of his General; for, let the presumed necessity for the act have been ever so pressing, shocking and horrible as its perpetration in any case would have been, for the surgeon to have done it would have entailed infamy on himself, and have destroyed all confidence for ever after.

We are told that Larrey was born in 1776—that is six years after Sir James M'Grigor; but in this there is probably some error, as we find that, after studying six years at Toulouse, under his uncle, Surgeon-Major Larrey, who adopted him at the death of his father, he entered the navy as assistant-surgeon and, being wrecked, returned to Paris in 1789, where he became an eye witness of the

troubles of the Revolution, and took charge, under Desault, of its first victims.

The experience thus obtained enabled him to serve with *éclat*, three years later, in the army of the Rhine, under Luckner, which he joined on 1st April, 1792, and where he was appointed medical chief of Kellerman's division. Here he soon saw active service; and perceiving at once the inconveniences of the French ambulances as then constructed, and overwhelmed with the privations and sufferings he saw entailed on the wounded by their inefficiency, he devoted himself to the construction and organization of the *ambulances volantes*. The advantages of these and the merits of Larrey were at once recognised; and, in a despatch written to the Convention, after they were first used, General Beauharnais says:—"I ought not to omit mentioning the names of Surgeon-Major Larrey and his comrades with flying ambulances, whose indefatigable care in the healing of the wounded, has diminished those afflicting results to humanity which have generally been inseparable from the days of victory, and has essentially served the cause of humanity itself in preserving the brave defenders of our country."

When the army went into winter quarters, Larrey was sent by the generals and representatives of the people to Paris that he might superintend the construction of *ambulances volantes* for all the armies of the Republic. He was soon ordered to join the army of Italy, to organize an ambulance corps there. Buonaparte at once manifested a lively interest in the corps. He caused it to manœuvre before him with all its staff, just as if it were on the field of battle, and then testified his approbation, saying to Larrey:—"Your work is one of the most happy conceptions of our age; it will suffice for your reputation."

In Italy Larrey occupied what leisure time he had in establishing a school of surgery at Milan, in inspecting the hospitals at Venice and Padua, and in visiting the celebrated Professors Spallanzani and Scarpa; and on his return to Paris was ordered to repair to Toulon as Surgeon-in-Chief to an expedition.

He now set about to organize a medical staff, and to collect all the requisite material for a large army, taking care to have a sufficient number of ambulances. Suspecting the object of the expedition, he applied himself to the diligent study of the climate and peculiarities of Egypt. His surmise proved correct; and they soon disembarked at Alexandria, where the campaign was commenced to which Sir James M'Grigor, as we have already seen, afterwards hurried,

entering Egypt from the Red Sea. And here it was that the contemporaries were first brought into connexion with one another; and both of them have left behind them valuable works containing the results of their experience in the expeditions.

Some of our Irish surgeons sometimes dilate on the niceties of the treatment required after capital operations, the attention to position, and many other circumstances essential to the recovery of the patient; but we are not aware that any of them have ever nursed a patient after the following fashion, adopted by Larrey after the unsuccessful attack on the English position at Aboukir, where 1,900 French, including six generals, were wounded, among whom was one whose knee was ground by a bullet:—

“Larrey, perceiving that fatal results might ensue unless the limb was amputated at once, proposed amputation. The general consented to the operation, which was performed under the enemy's fire, in the space of three minutes. But lo! the English cavalry suddenly near their side. What was then to become of the French surgeon and his dear patient? ‘I had scarce time,’ said Larrey, ‘to place the wounded officer on my shoulders and carry him rapidly away towards our army, which was in full retreat. I spied a series of ditches, some of them planted with caper bushes, across which I passed, while the cavalry were obliged to go by a more circuitous route in that intersected country. Thus I had the happiness to reach the rearguard of our army before this corps of dragoons. At length I arrived with this honourably wounded officer at Alexandria, where I completed his cure.’”

It is not necessary to follow him through all his career, which is uniformly marked by unceasing industry, amazing energy, and noble devotion to the improvement of surgery, and the furtherance of everything whereby life might be saved, and suffering relieved. Wherever he went he laboured for the one end; he attended the wounded under the fire of the enemy; he inspected hospitals and museums; he visited celebrated professors—as Spallanzani, Scarpa, Sæmmering, and Humboldt; he established schools of military surgery; he lectured, he advised, he taught; and both by precept and example he urged on his God-like mission of ministering to suffering humanity. Nor were his attentions confined to his countrymen; wherever suffering was, there was he to be found. At one time we find him at El-Arisch, in the crowded, fetid, and pestilential underground Turkish cave; at another, remaining behind his countrymen in Spain to take care of, and provide for, the wants of

the English who fell into their hands at the retreat of Sir John Moore—a duty in the performance of which he well nigh became a victim, having taken fever from his patients. To him, the office of the surgeon and the rights of humanity among the sick and wounded admitted of no distinction of country. He allowed no routine, or dread of incurring responsibility to interfere with his providing for the requirements of his patients. At the island of Lobau, for instance, he had recourse to an expedient which he had successfully adopted on a previous occasion, and was in consequence summoned before the Emperor, who, however, instead of yielding to the clamour of the complainants, raised him to the rank of Baron of the Empire.

“Though all the wounded in the island of Lobau received much attention from the French surgeons, they suffered greatly. The chief causes of their sufferings were the heat of the day, and the icy coolness of the night. Moreover the destruction of the bridges and the insufficient number of boats rendered it almost impossible to import the quantity of provisions and comforts requisite for the large number of wounded. The Surgeon-in-Chief, Larrey, in order to prevent his patients being starved, ordered soup to be made of horse-flesh. Although Larrey endeavoured to spare the horses as much as possible, yet the French generals, who chiefly suffered, were loud in their complaints at their horses being turned into food. It was a wanton violation, as they thought, of the rules both of Epicurus and of humanity. Accordingly they complained to Buonaparte of the manner in which their animals had been served up by order of Larrey. The Emperor summoned Larrey, and in the presence of his staff demanded an explanation with a most severe expression of countenance. ‘What,’ said he, ‘have you on your own responsibility disposed of the horses of the officers in order to give soup to your wounded?’ ‘Yes,’ answered Larrey. He added no more, and soon afterwards he heard of his elevation to the rank of Baron of the Empire. The want of food was not greater than the want of utensils, and among the expedients for remedying the deficiency was that of picking up cuirasses on the field of battle. On these cuirasses, the owners of which had in most cases been killed, soup of horse-flesh was served, there being scarce any other nourishment for Larrey and his patients in the island of Lobau.”

At the abdication of Napoleon, when so many of those who had received kingdoms and highest honours at his hands deserted him, Larrey remained faithful, and would have accompanied him to Elba had he permitted. After his return to Paris, Larrey was one of the first officers that Napoleon sent for. He was again placed at

the head of the medical department of the army, and was present at Waterloo, in the flight from which he was taken prisoner by the Prussians, and about to be shot, when he was recognised by a Prussian surgeon who had attended the lectures he delivered in the Prussian capital about six years previously, and who had sufficient influence to obtain a reprieve, and have him brought before Blucher. The introduction was fortunate, as in the Austrian campaign Blucher's son had been taken prisoner by the French, and was spared his life through the exertions of Larrey. So, in grateful recollection of his Samaritan benevolence, Blucher not only cancelled the sentence of death against Larrey, but granted him an escort to Brussels.

"Larrey was obliged by the Allied Powers to leave Brussels for Paris, where he arrived on the 15th of August, 1815. His wife and family, who had been in great anxiety about him, fearing that he was dead, experienced much joy at seeing him again. Domestic happiness still remained to him, but outside the circle of his home all seemed dreary. The enemies of his great chief were now firmly established; but these enemies respected the great and good qualities of Larrey, and gave signs of their respect by offering him employment both honourable and lucrative. Among those who paid this tribute to his worth was the Emperor Alexander, who offered him a high medical position in the Russian armies. He refused all tempting offers from foreign powers at that time, so great was his desire to devote himself to disinterested acts of charity on French soil, even under the somewhat unfriendly and discouraging rule of a Bourbon."

During the early years of the restoration Larrey was deprived of his rank as Inspector-General of Hospitals, and of the pension of 3,000 francs granted to him by Napoleon on the field of Lutzen; but the pension was restored in 1818, and the title of Surgeon of the Royal Guard was bestowed on him three years later by Louis XVIII. Some years subsequently he determined to write a great work on surgery; and, anxious to know the progress that had been made in this science in England, he embarked for that country about 18th August, 1826, accompanied by his son, who has filled, under the Third Napoleon, the place of his distinguished father. The medical men of Great Britain seemed to vie with one another in showing how much they appreciated both the talents and moral character of Larrey. He devoted much time to visiting the hospitals; and on his return to Paris addressed to the

Minister of War a report in which he made known the result of his journey. He also presented to the Academy of Sciences a memoir containing disquisitions on a number of clinical subjects, which gained him so much credit with that body that in 1829 he was named a member of it, on the death of M. Pelletan.

In 1841, old in years but young in spirit, he undertook the fatiguing and dangerous mission of inspecting the military hospitals of Algeria. The physical exertions, the mental labours, and the continued excitement of this inspection exhausted his strength. He completed his mission, and hurried towards Paris to present his report; but he lived only to reach Lyons.

To moralize here on the career and characters of these great men were useless. Indeed their lives are the best commentaries on their characters. It remains only for us to close our brief notice of Larrey with the words spoken by Napoleon in St. Helena, fitting accompaniment of those we have already quoted as spoken by Wellington of Sir James Mc-Grigor:—

“‘What a man, what a brave and worthy man is Larrey! What care was given by him to the army in Egypt and everywhere! I have conceived for him the highest esteem. If the army were to raise a column to the memory of any one, it should be to that of Larrey. He has left in my mind the idea of a truly honest man. He is a truly worthy man, for to science he unites all the virtue of an effective philanthropist. All the wounded are of his family. The chief object of his consideration has been to exert himself in his hospital, in which he has been so successful as to entitle him to both my esteem and my gratitude.’ Not long afterwards Napoleon made his will, and wrote in it:—‘I bequeath to the Surgeon-in-Chief of the French army, Larrey, 100,000 francs. He is the most virtuous man I have ever known.’”

Transactions of the Obstetrical Society of London. Vol. III., for the year 1861. London: Longmans. 1862. 8vo, pp. 480.

THIS volume contains the papers read before the London Obstetrical Society, during the session of 1861. Many of them are of great value, and we propose to lay before our readers a digest of the most remarkable of them.

The session was opened on the 2nd of January, with an Address from the President, Dr. Tyler Smith, which was a graceful éloge

on the late President, Dr. Rigby. At the conclusion of this, the regular business of the session was commenced with the following paper:—

I.—*A Case of Fibrous Tumour of the Uterus.*

By T. H. TANNER, M.D., &c.

The patient, aged 34, had been married seven years, when she came under Dr. Tanner's care in 1855; she had suffered from attacks of hemorrhage for two years, which had latterly become almost incessant; the hemorrhage continued, scarcely influenced by treatment, till her death in 1860. The abdominal parietes were loaded with adipose tissue, so that it was difficult to learn the condition of the viscera; but there was a greater dulness over the hypogastric region than elsewhere, and such a sense of resistance as would be communicated by a solid tumour. On examining by the vagina the uterus was found very high up, so that the cervix was reached with difficulty, the os uteri was so small that a small bougie could not be passed through it. Astringents of all kinds were tried without benefit; the tampon could not be borne; the only agent that appeared to have any effect in checking the hemorrhage was mercury, to which the patient owed her life on several occasions; the sixteenth of the bichloride, every sixth hour, had as good an effect in this way, as calomel pushed to salivation. After death the abdominal walls were found two inches thick with adipose tissue, there was a fibrous tumour in the posterior wall of the uterus, as large as half a small orange, and projecting into the cavity of the uterus. There were two cysts, one large and one small, connected with the right broad ligament, the larger measured nearly nine inches across, and, by resting on the wings of the false, bore up the uterus out of the true pelvis.

II.—*On the Treatment of Sickness in Uterine Inflammation, and Diseases of Menstruation.* By E. J. TILT, M.D., &c.

In addition to the diseased states referred to in the title of this paper, Dr. Tilt treats of sickness in other uterine affections, such as fibrous tumours and displacements. The treatment advised is: 1st, removal of the cause; 2nd, opiates and sedatives, both internally and applied to the uterus and uterine region, as enemata, plasters, and ointments; 3rd, counter-irritation over the stomach. He has seen the sickness suddenly stopped, by the application of potassa cum calce or leeches to the neck of the womb; effervescing drinks,

ice, and bitter tonics, he has found useful. He always advises the patient to take a cup of tea or milk, with a teaspoonful of brandy, on first awakening in the morning, and before getting out of bed; every thing in the way of diet, that such patients fancy, should be given; every half hour it is well to give a teaspoonful of some nutritious food, such as milk or cream, with rum or brandy. Many would never eat, if left to themselves, and their friends should be told to take to them at unexpected times a few mouthfuls of something savoury, and the patient must make a duty of taking them.

III.—*Case of Puerperal Fever complicated with Diphtheria, in which life was saved by the Sesquichloride of Iron.* By ROBERT DRUIT, M.R.C.P.L.

The fever commenced on the seventh day after delivery with rigor and pain in the leg, followed by pain in the chest, and slight tenderness over the uterus. Treated with stimulants, quinine and opium, the patient rapidly ran into a low typhoid state. On the eighth day of the fever she was put on the use of the tincture of the sesquichloride of iron, in drachm doses, every second hour. At this time she was complaining of her throat, and two days after, the pharynx was discovered to be covered with a diphtheritic exudation. On the tenth day she began to loathe the steel, which she had taken freely hitherto, and it was changed for the quinine. The diarrhea at this time was checked, and the stools black and perfectly deodorized. Next day the steel was resumed in half drachm doses. In two days more she was able to be on the sofa, and from this forward her recovery was rapid and satisfactory. Dr. Druit attributes the good effect of the steel, not only to its powerful tonic and stimulant virtues, but also to the fact that it completely deodorized the contents of the alimentary canal.

IV.—*Case of Epileptiform Convulsions in the third week of the Puerperal State.* By R. UVEDALE WEST, M.D.

The convulsions in this case are attributed by Dr. West to "eccentric intestinal irritation, joined with slight albuminuria, at a time when the puerperal state rendered the nervous system peculiarly susceptible." The patient recovered under the use of purgatives, alteratives, and tonics.

V.—*Ovariectomy, with cases and remarks on the different steps of the operation, and the causes of its mortality.* By W. TYLER SMITH, M.D., &c.

Dr. Smith records four cases in which he removed the diseased

ovary, and in each of which the patient made a good recovery. Case 1 was a monocystic dropsy of the left ovary, in a woman aged 50, mother of five children. The disease was of two years' duration. There was a small quantity of ascitic fluid, and there were no adhesions. The operation was performed on the 15th October, 1860. In four weeks the patient was well enough to go out and travel by rail to Boston. In seven weeks the ligature came away; and on 6th February, 1861, she was in perfect health. Case 2 was one of polycystic disease of the left ovary in an unmarried woman, 24 years of age. Tapping and pressure had been tried, but the tumour filled again. The operation was performed on the 15th November, 1860. The tumour was extensively adherent to the lesser omentum and arch of the colon. The adhesions were broken by the hand; considerable oozing took place from the omentum, but after ten or fifteen minutes it ceased, and the coagula were removed, and the incision closed. She was in considerable danger for upwards of a week from peritonitis, and when she began to move about, she was seized with violent pain in the situation of the adhesions, as if the movement had separated or inflamed them. She is now, eleven weeks after the operation, in good health, the ligature has not yet come away, but the opening through which it protrudes is diminished to the smallest possible extent. Case 3 was a monocystic disease of the left ovary in a lady unmarried, aged 30. She had never been tapped; there were no adhesions. Her recovery after the operation, which was performed on 7th December, 1860, was without a bad symptom, and in three weeks she sat up convalescent. Case 4 was one of polycystic disease of the left ovary, of the colloid type. The patient, aged 35, had been delivered of a healthy child, at the full term, four months before the operation, which was performed on 4th January, 1861. There was a large quantity of ascitic fluid; the tumour was adherent to the abdominal walls on the left side by a number of strong rope-like bands, which were separated by the hand, great force being necessary to detach them. She sat up at the end of a month; the wound gradually healing, and the sutures closed; the ligature came away on the 3rd February, and the last report of her was that she was going on very satisfactorily.

In his remarks, Dr Smith says, these are the only cases in which he has ever attempted anything beyond tapping, or tapping with iodine injection; and he feels bound to confess, that in the treatment of ovarian disease, he has not done as much good in the

whole of his previous career as he has in the few months occupied by the cases now detailed; he could not before point to an equal number of distinct and positive cures of this common and destructive malady. It would not, he says, be possible, individually, to say anything stronger than this in favour of the operation.

Dr. Smith operates with the patient in a sitting position, in an easy chair, to better allow of tapping without the escape of any of the contents of the cyst escaping into the peritoneum; this posture also favours the escape of the ascitic fluid. He keeps the room at a high temperature, and uses chloroform. He prefers a moderate incision which can be enlarged if necessary—and uses a ligature for the pedicle, instead of a clamp—and returns the stump into the pelvis. Though the clamp may be removed as the wound heals, and the patient be cured at an earlier period than with the ligature, he thinks its weight, its keeping the pedicle on a strain, its liability to be displaced, and its causing a close adhesion of the uterus to the line of incision, which may be injurious in a future pregnancy, are sufficient reasons for not using it. When a ligature is used and the stump returned into the pelvis, it soon becomes isolated by lymph poured out around it; and, he has never seen any disadvantage from this practice. Dr. Smith refers to Mr. Clay's statistics as proving that the proportion of deaths is greater when the clamp has been used or the stump kept outside, than when it was allowed to fall into the abdomen. He uses silk for the sutures, but is not sure whether silk or wire would be the best material; he passes the deep sutures to the peritoneum, but not through it, and puts them so close as to keep the incision perfectly closed, except at the exit of the ligature. When there are adhesions he separates them with the hand, and, as far as practicable, on the side of the tumour, and when bleeding occurs arrests it by ligature, if necessary; when only oozing takes place, the wound should never be closed till it has ceased, and all clots and bloody serum have been carefully taken away. Opium, except when there is acute pain, he thinks likely to do more harm than good; but the employment of stimulants at the right time, he regards as an important element of treatment.

VI.—*Defective Formation of Skin round the Umbilicus; Plastic Operation.* By ALBERT NAPPER, ESQ.

This was a case of a deficient formation of the abdominal wall. The contents of the abdomen protruded into the umbilical cord to

the size of a small orange. Ten days after the child's birth "the cord was sloughing off at the margin of the true skin, leaving only a thin transparent membrane over the hernia, which daily increased in size, measuring at this time seven and three-quarter inches in circumference." On the twelfth day Mr. Napper proceeded to pare the edges of the opening, and to bring them together with hare-lip pins and twisted suture. During the operation the whole contents of the abdomen escaped, and there was much difficulty in returning them. The child did not appear to suffer much, nor was it much exhausted; it afterwards took milk and water (the mother having unfortunately lost her milk on the previous day), and lay composed till two o'clock the following day, when it died.

VII.—*On Fibrous Tumours of the Uterus, treated by Surgical Means.*

By J. BAKER BROWN, F.R.C.S., &c.

In this paper Mr. Brown details six cases in which he operated on fibrous tumours of the uterus, by incising the os, and gouging out a portion of the centre of the tumour, so as to lead to the breaking up and dissolution of it in the form of a muco-purulent discharge. The tumours for which the operation is intended are only those that are intra-uterine, of the non-pedunculated form, growing from the inside of the uterus by a broad base. Case 1 was of seven years' duration, the patient much reduced by hemorrhage. Mr. Brown incised the os on the 26th May, 1859, after which all hemorrhage ceased, and she went to the country to gain strength; on the 27th October he gouged out a piece from the centre of the tumour, and in February, 1860, all discharge had ceased, the uterus had gained its normal dimensions, all the symptoms of the tumour had disappeared, and the general health was greatly improved. Case 2—A fibro-cystic tumour.—On the 5th July, 1860, the os was incised, and on the 26th the tumour broken down with a pair of scissors in several places. On the 9th August the abdomen was an inch and a-half less in circumference than before the operation, the tumour was breaking down and passing away in lumps, with an offensive discharge from the vagina. On the 17th there was considerable hemorrhage, which came away with purulent and broken-up fibrinous matter from the womb. On the 21st symptoms of pyemia set in, but passed off in about a week, under the use of chlorate of potass and bark, with good nourishing diet. 28th, tumour much smaller, appetite and general health improving. Sept. 27, much hemorrhage. Nov. 27, menstruated, with only the normal amount of discharge.

Dec. 10th, the tumour exceedingly diminished in size; health very good. Feb. 1861, patient in good health, has gained flesh and strength. Has twice had some return of hemorrhage, but not enough to confine her to the house. Mr. Brown says that very probably she may require to have the tumour again gouged, but that her improvement has been very great. Case 3.—An unmarried woman, aged 46.—The os was incised, and the tumour gouged at the same time; pyemia set in, and she died on the tenth day after operation. This is the only fatal case Mr. Brown has had; he attributes the pyemia to the introduction of pus through one of the recently cut surfaces of the os, and has consequently made it a rule to divide the operation for the future into the two stages, the tumour not being gouged till the cut surfaces of the os have healed. Case 4.—Os incised on 27th Feb. 1860; tumour gouged on 7th May. On 7th July she left the “Home,” the tumour being very much less, and general health much improved, and when heard of she was in good health, and without a return of hemorrhage. Case 5.—A large intra-uterine tumour, occupying the pelvis; the uterus retroverted so that the os could not be reached. On 29th Nov. 1860, an incision was made through the posterior wall of the uterus, so as to expose the tumour freely. On 29th Dec. the tumour was gouged. On 24th Jan., 1861, this was repeated, as the tumour had not disappeared sufficiently rapidly, and on 7th Feb. again repeated, and Mr. Brown has no doubt the tumour will entirely disappear in a short time. Case 6.—Three intra-uterine tumours just within the os, but projecting into the vagina. On 15th Jan., 1861, the os was divided, and the tumours freely cut into. On 15th Feb. two of the tumours had quite disappeared, and one was not half the original size. The operation was not divided into two stages in this case, because the os was patulous, and the tumours could be easily reached.

Mr. Brown concludes: 1st, that such tumours may be destroyed by a surgical operation; 2nd, that the operation may be performed successfully and safely; 3rd, that the preliminary division of the os and cervix nearly, or quite, arrests uterine hemorrhage, the most serious symptom attendant on uterine tumours.

VIII.—*On Uterine Hematocele.* By H. MADGE, M.D.

This is a valuable paper on this little-understood disease, founded on a case of which the following is a sketch:—Mrs. L., aged 34, 13 years married, and has had three children, the youngest of whom is six years old; about six years ago she nearly lost her life from

secondary fever, accompanied with a peritoneal attack after cholera; has not been pregnant since this attack. On 27th of October, 1860, the menstrual discharge having lasted two days, she was seized with violent pains in the hypogastric region, which continued throughout the night and following day. This was treated as a local peritonitis. The catamenial discharge continued during the attack. She was doing well till 5th November, when, contrary to directions, she went out for a walk. She was brought home in a state of profound collapse. After she had walked a short distance the discharge suddenly returned in increased quantity, when she immediately complained of a feeling of weakness, and had to be assisted into a cab. The discharge by the vagina, after she got home, was very slight, and ceased altogether during the night. The state of collapse continued till the following day, when there was evident fulness with signs of peritonitis in the lower part of the abdomen, especially in the right iliac region. On the 7th, reaction was established, and there was fever, with a very anxious countenance. The fulness had now become a prominent and well-defined rounded tumour, more central in its situation, and extending nearly to the umbilicus; on examining by the vagina and rectum the tumour was also found occupying the pelvis, extending to within about three inches of the vulva. The posterior wall of the vagina bulged forward in all directions, and so much against the anterior, that at the upper part of the canal it was difficult to pass the finger; the os uteri was closely pressed up behind the symphysis pubis, the uterus being completely retroverted, and the rectum flattened by the pressure. In a few days the pain and fever subsided, leaving the tumour the size of a full-grown fetal head. On the 18th the patient's general health having improved, and the abdominal tumour having become rather smaller, she had, during the night, a copious discharge per rectum, of dark fluid resembling coffee grounds, apparently altered blood; but, instead of becoming less, the abdominal tumour became larger, and the vaginal swelling was felt softer. Though there was no discharge from the vagina, and it was not the menstrual period, the patient's pallor and lowered pulse showed there had been some accession of internal hemorrhage. About a month from the commencement of the illness the catamenia appeared, and continued two days; but on the second day of its appearance, many of the bad symptoms which were present at the onset showed themselves; the anemic condition, partial collapse, and pain in and around the abdominal tumour being the

most prominent. It was again evident that an accession of internal hemorrhage had taken place, but it did not this time appear to affect materially the size of the abdominal tumour. The patient soon rallied, and all pain subsided, but she was now much wasted and changed in appearance. The face was much attenuated, and became of a whitey-brown or dirty yellowish hue. This peculiar appearance of the skin, simulating that which is considered to be pathognomonic of malignant disease, has often been observed in cases of uterine hematocele, and is supposed to be due to the presence in the system of degenerated or altered blood. She improved during the next fortnight, when phlegmasia dolens, in a severe form, attacked the legs; first the left, then the right. When the next menstrual period arrived, there was a slight discharge from the vagina during one day; on the following she was seized with what was said to be diarrhea, but was in reality a profuse discharge of altered blood and clots, by the rectum. This continued two days, and must have amounted to three or four pints; the tumour speedily disappeared, extreme prostration came on, and she died on the 28th of December.

An examination was made 20 hours after death, when the utero-vagino-rectal cul de sac of the peritoneum was found distended, altered, and converted into a closed cavity by the adhesion of the intestines above and around it; the remains of old and fresh clots and deposits of lymph and fibrin were found in it, and it communicated with two large cells in the left ovary, which seemed to be the chief source of the hemorrhage. It also communicated with the rectum by two openings through which the contents had been evacuated. The Fallopian tubes were impervious.

In the treatment of such cases, the great point is the question of puncturing the tumour, or leaving it to nature; the operative or expectant plan. Dr. Madge prefers the expectant, allowing the blood to be absorbed, or else to make its exit itself. The leading authorities, as Bernutz, Nélaton, Voisin, and others, after considerable experience of both plans of treatment, he says, almost invariably adopt the expectant; but they also agree that there are two classes of cases in which operative measures might be useful—1st. When the tumour, having received an addition of blood to its contents, gives rise to much suffering, and threatens to burst into the peritoneal cavity. 2nd. When the tumour becomes stationary, receiving no additions of blood at the menstrual periods, all pain and active symptoms having subsided, general health good, and the patient wishing to be relieved from a bulky and cumbersome

swelling. The rest of the treatment is conducted on the general principles of supporting the patient, attending to the secretions, relieving pain, inducing sleep, and giving styptics to arrest hemorrhage. Preventive measures would consist in guarding, as far as possible, against the predisposing and exciting causes of the affection.

IX.—*A Case of Difficult Position of the Heads during Twin Labour.* By TIMOTHY POLLOCK, M.D., &c.

The first child in this case presented as a breech, when the body was born the head of the second child came down, the lower jaw of the first being hooked on that of the second, so that it dragged it down before it. The side of the face and head of the one child was pressed on the throat and upper part of the chest of the other. Both were still-born; mother did well.

X.—*Presentation of Right Shoulder and Arm; Spontaneous Evolution.* By CHAS. MAYO, F.R.C.S.

XI.—*On the Indications and Operations for the Induction of Premature Labour, and for the Acceleration of Labour.* By ROBERT BARNES, M.D., &c.

This paper opens with an historical sketch and critical examination of the various methods of inducing premature labour, and then describes a modification, by the author, of Dr. Keiller's method by the application of caoutchouc air pessaries to the dilatation of the passages, and gives cases in which it was practised. Dr. Barnes believes that, by his method, it is possible to terminate a labour, not only on a fixed day, but at a predetermined hour, and that with a greater amount of ease and security to the mother and child than has hitherto been obtained. He divides the process into three stages—1st. Preparatory measures; 2nd. Labour provocative measures; 3rd. Labour accelerating measures. The instruments he employs in the preparatory stage for the primary dilation of the cervix uteri are, if the cervix is very small and rigid, first, short metallic bougies, scooped out hollow for the sake of lightness and to afford free passage for discharges; secondly, a series of cylindrical caoutchouc dilators, the introduction of which is facilitated by being mounted on a flexible metallic stem, a foot or more in length, and which can be withdrawn when the dilator is *in situ*, previously to distension with water. In the provocative and acce-

lervative stages larger cylindrical bags are required; and to obviate a tendency which the cylindrical or pyriform bags have to slip out of the cervix into the vagina or forwards into the uterine cavity, he had one made of a fiddle-shape, so that, when distended, the bulging out at either end maintains the instrument in the cervix, an increased pressure being exerted upon the two points of chief resistance, the os internum and the os externum uteri. When labour is somewhat advanced, it is an easy matter to insert the larger bags, rolled up, into the cervix by the aid of the fingers alone. After introduction, the free end of the tubular portion is attached to the ordinary obstetric syringe-pump by which the bag is filled with water.

When the passages are sufficiently dilated the labour may be accelerated by friction over the uterus, by applying a binder, puncturing the membranes, giving ergot, or, best of all, by turning by Braxton Hick's method, without introducing the hand into the uterus.

XII.—*A Substitute for Brandy in Cases of Exhaustion.*

This is a liquid essence of beef, exhibited by Dr. Druit. It is said to be free of anything that loads the stomach, and to exert a rapid and remarkable stimulating power over the brain.

XIII.—*Case of Idiopathic Pericarditis in a Child two years old.* By A. MEADOWS, M.D., &c.

XIV.—*A New Pelvimeter.* By J. L. EARLE, M.D.

XV.—*On the Treatment of Cases of Abortion, in which the Placenta and Membranes are retained.* By W. O. PRIESTLEY, M.D., &c.

In this paper Dr. Priestley shows, that the leading authorities are at variance as to the propriety and method of removing the secundines in cases of abortion, Dr. Denman recommending that they should not be interfered with, as he thought there was more danger from operations for their removal, than from their retention, while others attribute very serious inconveniences to their retention. Dr. Priestley adduces cases, from his own practice, showing the great evils arising from the retention. These are 1st, hemorrhage; 2nd, inflammation of the uterus and surrounding tissues; 3rd, various forms of blood poisoning and pyemia. 4th, sub involution of the uterus; 5th, the formation of moles. Of the means recommended for their removal, he has little faith in ergot and similar

medicines; instruments, such as the forceps and hooks, he condemns as uncertain and dangerous in their operation, and he coincides with Dr. Tyler Smith, in recommending that one or two fingers should be passed into the uterus for their removal, the whole hand, if necessary, being passed into the vagina, the patient being placed under the influence of chloroform. About six hours after the expulsion of the ovum, he thinks the right time to operate, and he would not hesitate to remove the chorion, in this manner, even as early as the second month, if any urgent symptoms were present.

XVI.—*Case of Small Pox in Twin Fetuses.* By H. MADGE, M.D.

XVII.—*Case of Idiopathic Pericarditis in a Child two years and a-half old.* By H. MADGE, M.D., &c.

XVIII.—*A Case of Hydatid Mole expelled from the Uterus, immediately after a living fetus and its placenta, at about six months' gestation; the Hydatid growth being the degenerate ovum of a twin conception.* By J. HALL DAVIS, M.D., &c.

XIX.—*On Unusual Elongation of the Fetal Head as a cause of difficulty in the application of the ordinary Obstetric Forceps; with a Description of the modified form of Instrument to be used in such Cases.* By GRAILY HEWITT, M.D., &c.

Dr. Hewitt, having met with a case in which he found it impossible to introduce the short forceps he was in the habit of using, set about to ascertain the reason of his failure. He found that the head had been unusually elongated in its passage through the pelvis, so much so that the occipito mental diameter measured six instead of five inches; and in this paper he suggests a modification of the forceps to suit such cases. He would have the instrument made longer, the blade to measure eight inches, instead of six and a-half or seven, and the curve to be an arc of a circle of fourteen inches in diameter, instead of ten or eleven. It will be seen that these measurements correspond very closely to those of the Dublin forceps, and, we have no doubt, it or Churchill's forceps would have answered every purpose Dr. Hewitt required.

XX.—*On the Inflammation of the Breast, and Milk Abscess; with an Analysis of Seventy-two Cases.* By THOMAS W. NUNN, F.R.C.S., &c.

The object of this paper is to show that, in addition to the great

proclivity to mammary abscess that exists in the first weeks of nursing, there is a proclivity to it, induced by nursing, after the ninth month. This the author attributes to a cachexia caused by over lactation, and requiring a supporting and tonic plan of treatment. In the treatment of mammary abscesses generally, Mr. Nunn uses poultices where there is much pain; but under ordinary circumstances, he believes cotton-wool soaked in oil, or lint spread with ungt. resinae to be preferable. He insists on the recumbent posture, and when matter forms he makes a free opening. He has been disappointed with belladonna; and for the sequelae of mammary abscess, such as sinus and œdema, he thinks a weak galvanic current very serviceable.

XXI.—*A Case of Fibroid Tumour, springing from the Posterior Lip of the Uterus, causing complete Prolapse and Simulating Inversion of the Uterus; removal by Ligature; Recovery.* By ROBERT BARNES, M.D., &c.

XXII.—*Four additional Cases of Ovariectomy.* By W. TYLER SMYTH, M.D., &c.

This may be considered a postscript to the paper already noticed. Of the four cases, one died from peritonitis 20 hours after the operation. When the wound was nearly closed it was found there was a good deal of oozing going on; it was, accordingly, reopened. It was found the pedicle had been split, and a vessel injured behind the ligature, and a fresh ligature was applied. One of the sponges used in the operation was now, unfortunately, missing, and some time was lost in searching for it in the pelvis. She seemed, however, as well as patients usually are after the operation, and the quantity of blood lost was not very great. The *post-mortem* examination showed vivid redness of the peritoneum, with a profuse effusion of coagulable lymph. The liver and kidneys were in a granulated condition. The patient was, Dr. Smith says, in better health than any other he has operated on.

In the last case of the series the ends of the ligature were cut off; the pedicle returned into the abdomen, and the incision completely closed. The wound healed completely by the first intention; and it is said that no inconvenience was caused by the ligature, which was of silk. But it is to be observed that the operation was performed on the 14th of June, and the communication made to

the society on the 3rd July. At this date the patient was able to go out daily in a bath chair.

XXIII.—*Is the Ergot of Rye, when administered to the mother during labour, dangerous or not to the life of the child? A practical inquiry.* By R. UVEDALE WEST, M.D., &c.

The answer to this inquiry, arrived at by Dr. West, is, that ergot is not injurious to the life of the child; a conclusion the very opposite of that arrived at by investigators in Dublin.

XXIV.—*Pelvic Cellulitis after second pregnancy, followed by suppuration in the left groin and left antero-superior femoral region.* By N. C. HATHERLY, M.D., &c.

XXV.—*Historical Notes on Displacement of the Unimpregnated Uterus as a Cause of Displacement of the Gravid Organ.*

XXVI.—*On the Influence of Abnormal Parturition, Difficult Labours, Premature Birth, and Asphyxia Neonatorum on the Mental and Physical Condition of the Child, especially in Relation to Deformities.* By W. J. LITTLE, M.D.

Dr. Little attributes the evil consequences referred to rather to congestion of the nerve centres, from suspended respiration, than to mechanical injuries in the delivery.

XXVII.—*New Instruments for the Removal of Uterine Polypi.* By J. BRAXTON HICKS, M.D.

The principle of these instruments is the adaptation of the annealed steel-wire rope to a modification of the screw écraseur. The advantages of the annealed steel-wire rope over the chain are, first, that it is capable of being bent at any angle to the shaft. Secondly, a much greater length can be used; the former property enabling it to be used within the uterus, the latter allowing growths of very large equatorial diameter to be secured by it. The advantage over whip-cord is the ease with which even a small rope is carried to the base of a polypus. The rope should never be used a second time unless for a much less strain.

This instrument seems to differ from the wire écraseur of Maison-neuve only in the substitution of a wire rope for a single wire

XXVIII.—*Polypus of the Uterus, pendulous in the vagina, removed by the craseur.* By J. GRAILY HEWITT, M.D., &c.

XXIX.—*Five Cases of Ovariectomy.* By I. B. BROWN, F.R.C.S.

These cases make a total of 14 operations performed in the "London Surgical Home," of which 10 have been successful.

XXX.—*Female Bladder showing the results of Retention of Urine after Delivery.* By T. SPENCER WELLS, Esq., F.R.C.S.

A lady—a daughter of a member of the profession—was delivered in the country, on the 20th August; the bladder was not relieved till 48 hours after delivery, nor for 14 hours before it. Two or three days afterwards the water began to dribble away involuntarily. She was brought to London to be operated on by Mr. Wells for vesico-vaginal-fistula, but it was found there was none; very distressing cerebral symptoms set in, and she died on 16th October. The coats of the bladder were thickened; and lying loose in the cavity there was found a mass composed of the whole of the mucous membrane detached from the muscular coat, and covered on both sides with a deposit of the saline elements of the urine. Microscopically this mass might be described as degenerate epithelium holding together saline deposit. On boiling a piece of it in 20 pints of water to one ounce of acetic acid, much of the saline matter was dissolved, and some of the tissue became clear, looking like smooth muscular tissue, which had begun to degenerate, by the deposit of fatty or albuminous particles in its substance. Had not the lady's father been a medical man, the case would not have been brought forward. It was his desire that some good might arise from the case being made known to the profession, without the mention of any names.

XXXI.—*On Vaginismus.* By J. MARION SIMS, M.D.

By this term Dr. Sims proposes to designate an involuntary spasmodic closure of the mouth of the vagina, attended with such excessive supersensitiveness as to form a complete barrier to coition. These cases may be complicated, or not, with inflammation; usually the hymen is thick and voluminous, and when the finger is passed into the vagina its free border often feels as resistant as if bound with a fine cord or wire; but it may also be firm and unyielding, with even

the wire feeling free border, without symptoms of vaginismus. Dr. Sims details cases of women who had been married many years, but without intercourse having taken place, on account of this disease. The treatment is simple, and consists in removal of the hymen, incision of the vaginal orifice, and subsequent dilatation.

XXXII.—*Puerperal Fever.* By W. T. Fox, M.D., &c.

In this very elaborate paper Dr. Fox argues that puerperal fever is not a specific disease, or one *sui generis*, and that many similar diseases have been mixed up together under the head of puerperal fever, but that after eliminating all these there still remains the major part of cases which constitute puerperal fever, and which are identical with erysipelas.

XXXIII.—*Case of a Patient who, in Eighteen Pregnancies, gave Birth to only Seven Living Children; the Eleven others having been Expelled Dead at various periods of Gestation.* By W. NEWMAN, M.D., &c.

This paper was communicated by Professor Harley, who argued that the deaths of the children in this case arose from a want of formative power on the part of the mother, and that this should be recognised as a cause of death in many cases where other causes could not be demonstrated, and where the deaths were attributed to syphilis, though there was no evidence of its presence. The formative power, he said, was seen to diminish with each additional pregnancy.

XXXIV.—*Case of Abortion; Retention of the Ovum within the Uterus, and Growth of the Membranes for a period of Five Months after the Death of the Fetus.* By GRAILY HEWITT, M.D., &c.

XXXV.—*Knot on the Funis; in a Case in which the Child was born dead.* By W. SANKEY, Esq.

XXXVI.—*Instrument for the removal of Polypi of the Uterus*
By DR. TYLER SMITH.

This consists of a rod and winch, with a double canula, strong enough to carry wire and bear sufficient tension to cut through the neck of a polypus at once.

XXXVII.—*On a Case of United Children; or Double Monstrosity.*
By H. HANKS, L.R.C.P.Ed.

The children were joined from the top of the sternum to the umbilicus, but otherwise perfect; they measured $18\frac{1}{2}$ inches round the shoulders, and weighed $16\frac{1}{2}$ lbs. Shortly before five o'clock A.M., the head of the first child was extruded beyond the os externum. An arm being folded upon the left shoulder, Dr. Hanks drew it externally, to increase the space for the parts yet unborn, and made a gentle tension on the head; a little after six o'clock the mother was delivered of the two dead children, their trunks escaping simultaneously without lacerating the perineum. The recovery of the mother was as favourable as if it had been a single child.

XXXVIII.—*A Case of Peritonitis caused by escape of pus or putrilage from the Fallopian tube into the abdominal cavity, following on abortion artificially induced.* By ROBERT BARNES, M.D., &c.

Abortion had been criminally induced.

XXXIX.—*On Cauterization by Electric Heat in the treatment of certain Diseases of Women.* By ROBERT ELLIS, Esq.

XL.—*Case of Inguinal Hernia of the Right Ovary, successfully removed.* By A. MEADOWS, M.D., &c.

XLI.—*Inflammatory Disease of the Skin of the Head and upper part of the Body of an Eight Months' Fetus, with exudation of plastic lymph.* By GEORGE D. GIBB, M.D., &c.

We congratulate this young Society on being able to publish such a valuable volume of contributions at the close of the third year of their existence.

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

TRANSACTIONS OF THE ASSOCIATION OF THE FELLOWS AND LICENTIATES OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.^a

(Continued from Vol. xxxiii., p. 450.)

SESSION 1861-62.

FOURTH MEETING, FEBRUARY 19TH, 1862.

PROFESSOR OSBORNE, President, in the Chair.

Dr. MOORE read the following *Cases of Idiopathic and Tubercular Meningitis*.—The cases I am about to bring before the Association are examples of idiopathic and tubercular meningeal affections occurring in children, and I do so, not for the purpose of recording any unusual or unobserved phases in connexion with them, but to show that these formidable affections are as distinct, and can be as well defined, as many other diseases in the nosology. At present the term hydrocephalus seems to cover all meningeal diseases, and, if we consider for a moment, we must conclude that this is, to say the least of it, a very vague epithet, dating from the effect, not the cause of the disease. These hydrocephaloid diseases (so called) are divisible into acute and chronic, and it is under the former division I propose to class “Idiopathic Meningitis,” and acute “Tubercular Meningitis,” and to adduce examples which, from symptoms and pathology, will tend to show them to be distinct and separate lesions, and capable of being diagnosed as such during life. The first case I shall detail is that of a female child, aged six years and a half (one of eight children, the others all healthy), who was admitted into Mercer's Hospital, on 31st

^a These reports are supplied by Dr. B. G. Guinness, Secretary to the Association.

December. On inquiry I learned this child had a fall on her head some months ago, from which she seemed to suffer no inconvenience at the time. Nine days before her admission, whilst engaged at play, she suddenly complained of headache, which was soon followed by vomiting; the bowels were confined, and, despite of all purgative treatment exhibited, continued in a constipated state till the child was brought to hospital. On admission, the child was restless, constantly screaming, and rolling her head on the pillow; she seemed evidently unconscious; the eyes were congested; pupils very sluggish, greatly dilated, and turned up as in sleep; the little patient was inwardly convulsed. I immediately ordered the head to be shaved, and a blister to be applied over the vertex, extending from ear to ear, one grain of grey and one of James's powder to be given every second hour, and the bowels to be relieved by enemata; beef tea to be given liberally day and night. Notwithstanding all treatment the child became almost continuously convulsed, and the case proved fatal on the 7th January.

The *post mortem* examination was made with the greatest care, and presented the following appearances:—Having detached the membranes from before backwards, we found the brain so soft and semi-fluid as to resemble (as regards its consistency) thick cream. On being removed, the bony structures were carefully examined, but no trace of caries or disease could be detected. This, to a certain extent, narrowed our field of inquiry. The appearance of the cerebral lobes, as seen through the glistening dura mater, was of a beautiful purple colour, evidencing intense hyperemia. On removing the dura mater the more minute and brighter red vessels became better defined; and at one spot on the top of the right lobe, close by the longitudinal fissure, a trace of pus, and here and there along the sinus, a few points of lymph were effused, the remainder of the superior and lateral lobes merely giving you a greasy feeling when the finger was passed over them. On carefully turning up the base of the brain, the pulpy softening was very remarkable, and its substance of a darker hue than natural, and, on looking attentively, dots of lymph could be seen effused around the base of the optic commissures, and on either side of the pons, but no trace of tubercle either in the fissure of Sylvius or in the sulci of the cerebellar lobes, but in these latter the arborescent appearance was beautifully delineated. In cutting into the brain substance no trace of tubercle could be found, each lateral ventricle contained about three drachms of fluid, and the brain generally was semi-œdematous.

Now, in this form of meningitis, which is comparatively rare, and its causes obscure, a child in apparent rude health, with a favourable family history, is suddenly prostrated, the symptoms are very acute, and the duration of the disease, relatively short, sometimes running a fatal course in three or four days, and occasionally extending over ten days or a fort-

night. The pathology of these cases shows general softening of the brain-substance, with ventricular effusion, but *no trace* of tubercle.

And now, for the purpose of contrast, I shall give you the details of a case in the adjoining bed to the one I have just read to you, which I believe to be one of tubercular meningitis, in which the symptoms were more subacute, and extending over a longer period, and in which the family history of the child tended to confirm our diagnosis of its scrofulous character.

James Mooney, aged seven years, was admitted into Mercer's Hospital on the 29th December last. His mother stated that about six months previous he had been seized with a fit, which had returned on three occasions; that she had three children, two of whom are dead, one of water on the brain, the other of hooping-cough. Before admission this boy complained of headache, attended with vomiting; he had a sluggish expression, with strabismus of right eye, the sight of which was much impaired. There was dilatation of both pupils, but especially the left, and ptosis of the left eyelid. He has been subject to staggering and giddy fits when walking, which have increased after each fit. The last fit was on Christmas-day. About six months ago, he had been a patient at the Institution for Children, Pitt-street, with the cerebral symptoms I have detailed, and in addition, a distinct friction-sound was audible over the base of the left lung. For this affection he was treated with biniodide of mercury and bark, the head was shaved and blistered, and the side painted with tincture of iodine.

On admission into Mercer's Hospital, the head was again blistered over the vertex, from ear to ear, and one grain of grey and one of antimonial powder was given him morning and evening. The blisters and powders were repeated, and the head dressed with mercurial ointment, till the 6th January, when he got the 32nd part of a grain of biniodide of mercury in syrup of bark, three times a day. This treatment was attended with very satisfactory results; he walked more steadily; the ptosis of left lid well nigh disappeared; strabismus of right eye sensibly improved, and the boy assumed a healthy look; he was allowed to leave the hospital about the 28th of the month.

Now in this case the symptoms were much more subacute than in the first mentioned; this generally serves to guide in the special diagnosis of the tubercular from the idiopathic meningitis, in which I have already shown the symptoms are usually very active. In short, in the tubercular form the symptoms may be nothing more than slight fever, and drowsiness ending in coma. Now, in this case it *fortunately* happened that we were deprived of pathological proof of the tubercular nature of the affection; but from fatal cases, in which the symptoms were subacute and otherwise analogous, I am enabled to detail the *post mortem* appearances, which occur, viz., the effusion of greenish tenacious lymph about the base of

the brain generally, small tubercular depositions in the pia mater, and effusion into the lateral ventricles, sometimes to the extent of several ounces. As regards depositions of tuberculous lymph, its most frequent seat is in the fissure of Sylvius. Again, as a rule in cases where tubercles are found in the membranes of the brain, even in the most minute proportions, similar depositions will be found in the other cavities, especially the lungs, but the converse of this condition will not hold equally, tubercular depositions occurring in the lungs and mesentery, and the brain remaining intact.

With respect to some of the symptoms attendant on the first case I have detailed:—The inward convulsions became very remarkable towards the close; each paroxysm attended with an extensive and semi-rigid condition of the extremities. I am aware that some deny the existence of inward convulsions, but any one who has carefully watched a case in which these inward involuntary twitchings and spasms occur, cannot fail to recognize them as identical with the more extreme convulsive seizures indicative of peripheral lesions of the brain. In this case also, the mucoid film became very remarkable over both eyes towards the close, the eyes remaining half closed, and becoming perfectly passive to external objects. This is a symptom of deep interest, pointing as it does to diminished nervous influence.

The fever attendant on tubercular meningitis is sometimes difficult to diagnose from that of the ordinary remittent or gastric type occurring in children; but I think the extreme irritability and sensitiveness of patients suffering from cerebral affections, coupled with a usually rigid retracted state of the abdomen, are sufficient to diagnose them from gastric affections, in which we usually meet with the abdomen full and soft, and a lax rather than constipated state of the bowels; and, in addition, we necessarily have not that painful sensitiveness on being touched or handled, usually present in the pyrexia of nervous diseases.

FIFTH MEETING, MARCH 19TH, 1862.

DR. CORRIGAN, President, in the Chair.

Rev. SAMUEL HAUGHTON, F.T.C.D., read the following paper:—

On the Use of Nicotine in Tetanus, and Cases of Poisoning by Strychnia.

ἐπ' ἀνθρωπίου δὲ σώματος πειρᾶσθαι τῶν ἀπειράστων οὐκ ἀσφαλὲς εἰς ὅλεθρον ὄλου τοῦ ζῶου τῆς κακῆς πείρας τελευτώσης.—GALEN.

On the 29th of November, 1856, I laid before the Royal Irish Academy the results of some experiments made by me as to the physiological action of Nicotine and Strychnine on frogs. These experiments are published in the Proceedings^a of the Academy, and appear to show that these two

^a Vol. vi., p. 420. 29th November, 1856.

alkaloids exert effects counteractive of each other, at least on frogs. In the *Medical Times and Gazette* of the 12th of January, 1858, a case is published by Dr. Thomas O'Reilly, of St. Louis, Missouri, in which a serious case of poisoning by strychnine was successfully treated by the use of infusion of one ounce and two drachms of dry tobacco leaves, which was administered at intervals of five minutes, and with the result of completely resolving the muscular spasms, when half the above-named quantity had been given, and a complete cure was effected by the cautious continuance of the infusion. In this case six grains of strychnine had been taken.

It occurred to me, on reading this case, that nicotine might be usefully employed in cases of tetanus, as well as in cases of strychnine poisoning. I had an opportunity of testing the truth of this conjecture in two cases that occurred in this city in 1860 and 1861: the one, a case of traumatic tetanus; and the other, a case of idiopathic tetanus. I consider that both cases were satisfactory, in proving the utility of nicotine in counteracting tetanic spasms; although, in the first case, the man was moribund when the nicotine was given, and the original injury was so serious and extensive that no human power could have saved his life.

I am indebted for the opportunity of experimenting on the first case to the kindness of Mr. S. A. Cusack and Dr. Croker, of Dr. Steevens' Hospital, who were present, and can testify to the remarkable effects of the nicotine; and I owe the opportunity of using nicotine, in the second case, to Dr. Alfred Hudson, who was physician to the Adelaide Hospital at the time the case occurred in that institution. Mr. Alexander Preston recorded the case in Dr. Steevens' Hospital; and the excellent notes of the case in the Adelaide Hospital were written for me by Mr. Anthony H. Corley, who was a pupil of the hospital.

CASE I.—*Traumatic Tetanus, treated by Nicotine.*—Patrick M'Garry, aged 34, a farmer, was admitted into No. 1 Ward, Dr. Steevens' Hospital, on the 29th of January, 1860, suffering from a severe and extensive burn. On Sunday morning, the 29th, at three a.m., on his way from Blanchardstown, his native place, to Dublin, he lay down on the wall surrounding a limekiln to sleep, which he did for two hours, but at five o'clock, by some mishap (according to his own statement, uninfluenced by drink), his lower extremities and hands came over the pit of the kiln, and were dreadfully burned. A stranger coming to the place at the time, found him almost in a state of suffocation; he immediately took him to his own house, and sent for Dr. Maguire, medical officer of the Castleknock district, who had him conveyed to Dr. Steevens' Hospital, where he arrived a little before noon, at which time Dr. Hamilton saw him, and ordered the parts injured to be thickly spread over with dry flour, and cotton to be laid over this, so as to exclude the air as much as possible.

On examination, the injury was found to occupy a very large extent of surface. Both legs, both feet, and both hands, with the penis and scrotum, were found to be implicated; the muscles, fascia, and soft parts of the feet and legs in particular, were in a very bad condition; the left limbs were more severely burned than the right, a fact which is easily accounted for by the way in which he lay at the kiln. The constitutional symptoms in his case were:—Collapse, drowsiness, thirst, delirium, and repeated and violent rigors; the surface was pale, and extremities cold; pulse feeble, 88 to 90; heart-burn was experienced; and at a later period continual twitching of the muscles, with violent spasm of same, followed finally by well-marked tetanus. He had no vomiting, and after the 3rd of February did not complain of pain.

3rd February.—He complains of severe stinging pains, running from the pit of the stomach and pelvis to the toes; and this day showed the first tendency to delirium, and rigors, which last from 30 to 40 minutes; pulse 88, and feeble. He is annoyed by disagreeable heart-burns. Took castor oil this morning, which had good effect.

6th February.—Last night the slough began to separate, and this morning he was seized with tetanus, almost closing his mouth, and rendering it impossible for him to open it wider than would admit a spoon: it has to be kept open by a plug of wood. In other respects he has been much the same since the 3rd.

8th February.—He is in a very dangerous state to-day: at intervals of about an hour each he has a very violent spasm.

At 8h. 40m. a.m. he was visited by Professor Haughton, at which time his pulse was 130. Mr. Haughton gave him one drop of nicotine (0.6 gr.). This had the effect of lowering the pulse to 105 at 9h. 5m. a.m., and of rendering the respiration fuller and less frequent; and at 9h. 50m. a.m. the nicotine had lowered the pulse to 92–88.

At 10h. 55m. a.m. he got one drop of nicotine. Before this the pulse had been 112; shortly after the dose it fell to 92.

At 12h. 20m. p.m. had a very violent spasm; and at 12h. 55m. p.m. got one drop of nicotine. The pulse had been 116, and was lowered, as before, by the nicotine.

At 1h. 40m. p.m. had a very violent spasm, pulling his bedclothes with all his might.

At 1h. 50m. p.m. pulse very quick, and intermitted, ranging from 112 to 150.

At 2 p.m. pulse 112. For the last 20 minutes his breathing has been very rapid, and greatly impeded, owing to mucous deposited in the bronchial tubes, for the absorption of which he has iodine rubbed over the upper part of the chest.

At 2h. 10m. p.m. had a very violent spasm, just before which he was conscious, answering indistinctly when spoken to. In addition to the tetanic

spasms, he has had continual twitching of the muscles yesterday and to-day.

At 2h. 40m. p.m. had a very violent spasm.

At 2h. 45m. p.m. expired.

The effects of the nicotine observed in this case were the following:—

1. The immediate relaxation of the spasm of the muscles of expression, of respiration, and of deglutition.
2. The cessation of delirium, and feeling of relief from agonising pain.
3. The lowering of the pulse from 130 to 88 per minute.

These effects succeeded the administration of the nicotine up to the last moment, and by the use of this alkaloid the unfortunate sufferer was spared a most painful death, and allowed to die quietly of double surgical pneumonia, consequent on the extensive surface injury, instead of dying in torture by tetanus.

CASE II.—*Idiopathic Subacute Tetanus, caused by exposure to cold; treated by Nicotine.*—Arthur Kershaw, aged 40, Gardener, was admitted into the Adelaide Hospital, January 2nd, 1861, under care of Dr. Hudson. He stated that the nature of his occupation exposed him to all kinds of weather, and consequently he received several severe wettings during the past winter. The last of these occurred a short time before Christmas. He did not experience any immediate ill effects from that wetting; but early on Christmas Day, whilst standing beside the canal looking at the skaters, he was suddenly seized with cramps and pains in his lower extremities. He described these sensations as commencing in the loins and passing downwards, both in front and behind, as low as his knees. This attack was not very severe, lasted about an hour, and when it was over he was perfectly free from pain. The same night he had another attack precisely similar to the first but rather more severe. From that time the spasms increased both in frequency and intensity, but did not occur with any degree of regularity. On the day of his admission he was able to walk from his residence to the Dispensary, a distance of about half-a-mile. He was late, however, for admission, and on going home he was again seized with the spasms and obliged to take a car. That evening he became so much worse that it was necessary to have him conveyed to Hospital. It was subsequently ascertained that the different members of the patient's family, as well as himself, had been remarkable for possessing less than ordinary mental capacity; one of his brothers having been epileptic, and subject to attacks of furious mania. In one of these paroxysms, which occurred about sixteen years ago, he struck our patient on the head with a spade, knocking him senseless, and inflicting a severe wound. There was no evidence of fracture, and the wound soon healed. From that time, however, he became subject to a feeling of weakness in his head, never amounting to absolute pain, and never causing any inconvenience except preventing him from bearing any

weight on his head; such, for instance, as a heavy hat, and obliging him to keep his head cool. This sensation was not increased by drink. On the succeeding morning, when seen by Dr. Hudson, his condition was as follows:—He was lying on his face in bed, his legs and thighs forcibly extended and fixed. The erector spinæ muscles, the glutei, and those of his thighs were spasmodically contracted, hard, and rigid. The adductors and tendons of the hamstrings in particular, stood out like tense cords, and the muscles themselves could be seen quivering under the skin; this condition was next manifest in his left thigh, and he said it had been so from the commencement of the attack. His legs, however, were not affected; his abdomen was tense and hard, and he complained of pain about the ensiform cartilage, caused, apparently, by the spasms in the recti muscles. Slight relaxations occasionally took place, but, during the time he was being examined there was no complete remission; pressure over the spines of the superior lumbar vertebre appeared to cause slight pain, but did not increase the spasms. The agony he suffered during the occurrence of these appeared to be excruciating. In the partial intermissions that took place, he was able to describe his sensations, and it was thought, from the manner in which he said he walked, that his left leg was paralyzed. He stated that his appetite had been good up to the previous day; that his bowels had been regularly moved; and that he had passed his urine without any inconvenience.

He was ordered to be cupped on either side of the tender part of the spine, to have hot stupes applied immediately afterwards, and to take the following every hour—a powder containing one twelfth of a grain of calomel, and a grain of James' powder.

At one o'clock the same day, after he had been cupped, his pulse was 84, full and labouring; the spasms were as severe as in the morning, but not so frequent. When they occurred he obtained most relief by being placed on his feet and allowed to sink gradually on his knees. It then became apparent that the inability to move his left leg which he had spoken of in the morning arose, not from paralysis, but from rigidity of the entire limb. At seven o'clock in the evening he seemed quieter; the spasms were more frequent but not so severe.

January 3rd. The spasms and pains continued without diminution; they occurred so frequently and with such violence during that night, that he was unable to obtain any sleep. They had extended this morning to his legs, the muscles of which had become as hard and rigid as those of his thighs and abdomen. He was observed to hiccup once, and he stated that he had done so two or three times during the night. His pulse was 96, but very irregular, both in rhythm and fulness. The powders were ordered to be omitted and the following pills to be substituted—calomel and James' powder, twelve grains; extract of belladonna, four grains; extract of hyoseyamus, a scruple. To be divided into

six pills, and one to be taken every third hour. A fetid and terebinthinate enema to be administered immediately, and a long narrow blister to be applied on either side of the spine. At seven o'clock he was asleep, and it was not judged expedient to awaken him.

January 4th.—There was no appreciable alteration in the character or situation of the spasms. The patient appeared weaker, but said he suffered as much agony as ever. There was a permanent flush on his cheeks and forehead. His pulse was 120, but regular. He said he had hiccupped several times during the night, and he was frequently observed to gulp, as if flatus were coming off his stomach. The enema had produced several copious evacuations. The pills to be repeated, with the extract of belladonna increased to one grain in each. The blistered surface at the spine to be dressed with an ointment composed of 4 drachms of muriate of morphia to 4 drachms of lard; 1 drachm of mercurial ointment to be rubbed in at the inner side of each thigh. Subsequently Dr. Duncan saw him, in conjunction with Dr. Hudson, and the patient's tongue being found brown, dry, and fissured, he was ordered the cardiac mixture, 2 ounces to be taken occasionally; brandy to be administered, if necessary, and a large, hot, bran poultice to be applied to the spine.

January 5th.—During the night the patient became suddenly delirious, and afterwards passed into a state of coma, from which he was aroused by the administration of stimulants. Sinapisms were subsequently applied to the soles of his feet. In the morning he appeared quiet, and did not complain of much pain, but the spasms continued, with very slight occasional relaxations. Although not delirious, he was not quite rational, and sometimes spoke rather unconnectedly. His tongue was not so brown or dry as on the preceding day. His pulse 100, regular, but weak, and his pupils slightly dilated. His pills were stopped, and others substituted, containing calomel, camphor, antimonial powder, and extract of hyoscyamus, of each one grain, of which he was to take one each second hour.

January 6th (Sunday).—He appeared somewhat better, but spoke so incoherently, that it was impossible to ascertain how he felt. The condition of his limbs, however, was unchanged. His pulse 96. He had been very unmanageable during the night; got out of bed, and attempted to stand, but fell, striking his back against the rail of the adjoining bed.

January 7th.—The delirium was increased, pulse 84, tongue moist, but rough and white in the centre. The rigidity of his limbs was not in the slightest degree diminished. He had been very violent during the night; got out of bed, and insisted on lying on the floor. A severe purging had come on, and there was a mercurial fetor from his breath. The urine which he had passed on Saturday, having been kept in a glass vessel, was examined, and it presented a very striking appearance. There was a copious sediment deposited, consisting of two distinct strata; the lower

and larger of the two, whitish in colour; the upper a very thin purplish layer. The supernatant fluid was high coloured; alkaline in reaction, and it exhaled a very strong ammoniacal odour. A drop of this, the sediment having been previously stirred up, was examined under the microscope, and crystals of the ammoniaco-magnesian phosphate, in large quantities, were observed.

January 8th.—The preceding night it was found necessary to remove him into a ward by himself, in consequence of the violence of his delirium. During his removal, the muscles of the upper part of his back and those of his neck showed a tendency to participate in the spasmodic action. This was manifested in a slight attack of opisthotonos, which lasted for a couple of minutes. An enema of morphia in decoction of starch was administered, and a blister was applied to the nape of his neck. After these measures, he became quiet, but there was no relaxation in the spasms of his limbs. When seen in the morning, he was quite delirious; speaking loudly and continuously, and not ceasing even when spoken to. He continued in that state from five o'clock in the morning until noon, when he gradually became quiet. His pulse was 84.

At the suggestion of the Rev. Professor Haughton, Dr. Hudson determined to try the effect of nicotine. That medicine was, therefore, administered four times during the day, according to the former gentleman's directions, and with the following results:—At two o'clock, the patient, having sunk into an uneasy sleep, was awakened. Half a drop of nicotine, which is equivalent to three-tenths of a grain, was administered in 2 drachms of wine and water. His pulse was 80, but rose within ten minutes up to 88. At half-past three, when he was next visited, his pulse was 78, and he was bathed in a profuse but clammy perspiration. At half-past five, his pulse being still 78, the nicotine was repeated in the same dose. The pulse shortly afterwards rose to 100, and it was beating at that rate at six, seven, and eight o'clock. Immediately after the administration of the first dose, the abdominal muscles became manifestly relieved, and the abdomen rose and fell to a nearly natural extent in breathing. The muscles of the limbs, however, were still rigid. Towards the evening he became quite rational, and when visited at half-past eight, he was sleeping calmly. When awakened, he was in perfect possession of his senses; his pulse 78; his tongue white, but moist, and his pupils, which had been much contracted during the day, were dilated to a natural extent. His urine was tested and found neutral, but when allowed to stand for some time, phosphates in abundance were deposited. At nine o'clock he got the third dose, but this did not affect his pulse, which remained at 78, until midnight. He then got the fourth dose, and shortly afterwards his pulse rose to 80, and did not alter during the night.

January 9th.—This morning he appeared improved in every respect. He had slept well, and there had been no return of the delirium. Although he still complained of pain during the presence of the spasms, he said it was not nearly so severe as before, and the intervals between the spasms were growing much longer. He seemed unwilling to move his arms, or stir himself in any way, as he said that the least motion sometimes brought on an attack. His abdomen was soft, and nearly natural, but there was no appreciable change in the state of his limbs. The profuse sweating still continued. At 11 o'clock he got the fifth dose, his pulse being then 86. The sixth was administered at five o'clock, the seventh at eight, the eighth at midnight; his pulse, during the day and night, ranging from 78 to 82. From the time that he became rational, his strength was kept up by beef-tea and small quantities of brandy, administered at intervals during the day.

January 10th.—This morning the improvement in his condition was remarkable. He could move his arms freely, without inducing the spasms. These seldom attacked him, and even when they did, the pain, in comparison to what he had suffered, was trivial. He was able to move his legs and bend his knees a little for the first time. His spirits rose, and he began to feel hopeful. During the intermissions the muscles of his legs were perfectly relaxed, and those of his thighs were not quite so tense as they had been. The sweating continued, and he said his appetite was returning. The dose of nicotine was increased to three quarters of a drop, or nearly half a grain; and the first of these altered doses was given at 11 o'clock a.m., his pulse being 90. In half an hour it was 96. At two and at five, when he got the second and third doses, it was still 96. At eight o'clock he was not so well as in the morning. The spasms had become a little more frequent and painful, but yet not anything like so severe as they had been; and during the intervals the muscles, even those of his thighs, were perceptibly softer and less rigid. He seemed somewhat depressed and anxious, and complained greatly of thirst: his pulse had risen to 100. The medicine was administered every three hours during the night. Immediately after each dose the pulse rose to 100, but in a short time fell to 92.

January 11th.—There was further improvement this morning. The muscles of the abdomen and legs were quite soft and flaccid, and those of the thighs becoming gradually relaxed. There had been no return of the spasms from 12 o'clock the preceding night. The sweating still continued, and exhaled the peculiar snuffy odour characteristic of the nicotine. The power of moving his limbs was increasing. As he complained of being tired of the beef tea, it was ordered to be omitted, three eggs daily to be substituted for it; and stirabout, for which he expressed a desire, was ordered. His brandy was discontinued, and the nicotine ordered to be given in plain water. The next dose, the ninth of the increased quantity,

was given at half-past four; and at half-past seven it was repeated, his pulse being 98. Up to that time there had been no return of the spasms. His bowels not having been moved for some days, a laxative enema was ordered.

January 12th.—He was not so well this morning. The sweating had ceased, and his pulse was 120. He had had only one or two spasms, and they were not severe, but he appeared nervous and anxious. The angles of his mouth were drawn slightly backwards, giving his face a peculiar expression. The fact of the cessation of the sweating being coincident with the discontinuance of the stimulants, suggested the idea that the nicotine required to be combined with these, in order to exert its full constitutional effects. The brandy was, therefore, again ordered, and the nicotine to be given in sherry in the following proportions:—Twelve drops were mixed with two ounces of wine, of which one drachm was to be taken every three hours; the dose being, therefore, thirteen-sixteenths, or, in round numbers, three-quarters of a drop. At half-past six in the evening, the medicine having been regularly administered, with the stimulants, he was again improving: his pulse down to 96, and his skin moist and soft.

January 13th (Sunday).—His pulse was 100, but he was in every other respect still improving.

January 14th.—He felt himself much better, was able to move his legs and bend his knees to some extent. In the evening the muscles of his thighs and abdomen became a little more tense than they had been for some days, but he did not complain of pain. His pulse during the day ranged from 92 to 108, and at half-past seven it was 102. He was then quiet, and inclined to sleep. The dose of nicotine to be reduced one-half.

January 15th.—His face had regained its ordinary expression, and he could move his limbs more, but he did not like to do so, as it gave him some pain, and appeared to require great exertion. His pulse varied from 88 to 100.

January 16th.—This morning he had still more power in his limbs, and said he felt much better. There was, however, an anxious expression in his face, and he did not speak naturally, or with as much distinctness, as he had done previously.

January 17th.—The nicotine to be administered only three times a-day.

January 18th.—The general improvement was becoming more and more evident, and he was making inquiries as to when he would be allowed to get up. His pulse maintained the same character and variations.

January 19th.—He was able to sit up in bed. He got one dose of nicotine, and then the medicine was discontinued.

January 20th.—He was allowed to get up for the first time. He expressed himself as feeling very well; was able to stand without assistance, and could walk a step or two by holding on to the rail of his bed. A glass and a-half of brandy to be taken during the day.

January 21st.—He was up and moving about for some time.

January 22nd.—Feeling rather fatigued from the preceding day's exertions he remained in bed this day.

January 23rd.—No perceptible change; but he said he was getting gradually better. He had not been attacked by the spasms for several days, but still the muscles of his thighs were by no means completely relaxed, the adductors and hamstrings particularly.

January 24th.—Two strap-shaped blisters were ordered to be applied, one on either side of the lumbar spines; and he was desired to take five grains of iodide of potassium in a wine glassful of compound decoction of sarsaparilla, three times a day.

No circumstance worthy of note occurred during the remainder of the week. On Saturday the 26th, he was up and walking about the room, but was obliged to use a stick to support himself. The muscles of his thigh were still stiff, but there was an entire absence of pain. The discontinuance of the nicotine did not appear to produce any material change on his pulse, which ranged from 90 to 100 during the week. The sweating continued, but not anything like as copiously as during the administration of the nicotine. During the succeeding week there was gradual but decided improvement. On Saturday the 2nd of February, he was able to walk remarkably well, and all he complained of was a slight stiffness about his knee joints. All his muscles, even the adductors and hamstrings, were perfectly relaxed, soft and flaccid.

He was discharged from hospital on the 6th of February, and the only inconvenience which he complained of was the stiffness in his knees, which was then rapidly diminishing. In all other respects he declared himself perfectly recovered.

The quantity of nicotine given to Kershaw, from the 8th to the 19th January (11 days), amounted to 44 drops, or 26·4 grs.

The following statements as to the physiological effect of this alkaloid, when combined with minute doses of alcohol, appear to be borne out by the details of the case:—

1. It produced immediate relaxation of the muscles of the abdomen, back, and diaphragm.

2. It caused cessation of delirium.

3. There was a slight tendency to cause increased circulation, to the extent of 10 beats per minute.

4. It caused profuse sweating, which exhaled an intolerable odour of snuff, not of tobacco.

5. It had a tendency to produce deep sleep.

6. It failed to control quickly the adductor muscles supplied by the obturator nerve; and even when the hamstring muscles gave way, the adductors refused.

I became aware, after I had used nicotine in the two preceding cases,

that tobacco enemata had been employed successfully by the late Dr. O'Beirne,^a of this city, in the treatment of traumatic tetanus. Dr. O'Beirne was induced to employ tobacco, from its known power in overcoming constipation and destroying worms, as well as from its control over the nervous system.

Hippocrates distinguished between traumatic and idiopathic tetanus, pronouncing the former fatal (*θανάσιμος*), and stating that sufferers from the latter would recover, if they survived the first attack for four days. I believe that most practitioners would substitute 20 days for four days, at least, in our latitudes. He appears also to have distinguished between tetanus accompanied by opisthotonos, and by emprosthotonos, using venesection in the former case; and hot stupes with wine internally, in the latter.

Aretæus invented the terms, Opisthotonos and Emprosthotonos, and considered the causes of tetanus to be either a wound (including abortion in a woman), or exposure to extreme cold; and used the same remedies as Hippocrates, superadding cupping at each side of the occiput, and purgative enemata—his method of stuping is one that might, possibly, with advantage, be revived among us, viz., by means of warm oil applied in bladders of animals, half filled, so as to lie flat on the surface of the limbs, and take their shape.

Galen, in his book on Rigors, chap. viii. states, that he considers spasms in the muscles, such as occur in tetanus, to be the result, either of too great humidity or too great dryness, acting upon the nerves that influence the muscles. "Consider, therefore," he says, "that the nerves and tendons in the bodies of animals may either be distended by superfluous moisture, or dried up by causes promoting exsiccation, so that they reach that degree of tension at which voluntary motion takes place in those that are healthy."

"Thou knowest, indeed," he adds, "that it is allowed by all that there are three kinds of this affection—the first, which is and is called Emprosthotonos, the second, Opisthotonos, the third, Tetanus. . . . The spasms which arise from dryness (*ξηρότητι*), thou shalt never heal, for those thus affected, die presently, not even allowing time for devising a remedy; but the spasms that arise from repletion or inflammation (*διὰ πλῆθος ἢ φλεγμονην*), these thou can'st heal, by evacuating the repletion, and by curing the inflammation by its appropriate remedies."

The distinction here drawn by Galen is perfectly just, although not expressed in modern language, and is, perhaps, as intelligible as the "explosions of the animal spirits" to which tetanus was ascribed two hundred years ago, or as the contraction by polarity, by which some moderns think to explain this mystery, *obscurum solvendes per obscurius*.

^a Dublin Hospital Reports, Vol. iii., 1822, p. 343.

Of the remedies proposed for tetanus, the venesection of Hippocrates has no chance of trial, until time shall have exploded our prejudice against blood-letting; and if we believe, with Galen, that it is an acute disease of the nervous system, our choice of remedies must lie among the vegetable alkaloids. Of these, certainly, Nicotine and Belladonna are the most likely to succeed; and nicotine, if used, should be employed as such, and not in infusion of tobacco leaves, in which its properties are masked by the action of two or more vegetable oils, the operation of which on the nervous system is unknown.

CASE III.—*Attempted Suicide with Strychnine; Treatment with Nicotine (Tobacco); Recovery.*—Within the last few days a serious case of attempted suicide with strychnine, has been treated successfully in the Meath Hospital by Dr. P. C. Smyly, with tobacco, after the manner so well applied by Dr. Byrne in the celebrated case at Cincinnati, U. S., A. I shall give the narrative in Mr. Smyly's words, adding little by way of comment:—

Thomas Cuddy, aged 15, was apprenticed to a druggist about a year ago. He did not like the business, and ran away. His father brought him back, and set him to work again. He has always borne an excellent character. He on several occasions told his parents that he did not like his trade. As they did not attend to his wishes, he made up his mind, on the morning of Tuesday, 11th March, to make some change for himself in his circumstances. At about half-past eight of the same evening, he took down the strychnine bottle from the shelf, shook out on his hand about as much as would cover a shilling (his own account), swallowed the whole of it, and then ate a quantity of raisins, to take away the bitter taste from his mouth. One of his fellow-shopmen having seen him, ran and told his master, who was at his tea, what had occurred. The boy denied having taken anything, and went on with his work as usual. In about from 20 to 40 minutes he felt his legs getting stiff, walked to the end of the counter, and fell backwards with a jerk into his master's arms, crying out, "I did take it; oh! turn me on my back." He had eaten a full meal of potatoes and meat at half-past four o'clock. An apothecary was at once sent for. His assistant came and administered about three grains of tartar emetic, without exciting vomiting. The apothecary then arrived, and put the boy under the influence of chloroform, "to facilitate his removal into the hospital, the spasms were so violent."

The resident pupil, Mr. J. Foot, gave him some sulphate of zinc. This having no effect, was followed by a mixture, consisting of an ounce and half of mustard, vin. ipecac. 3 drachms, and a pint of warm water. Only a few mouthfuls of this were ejected!!^a

^a The stomach pump was tried, but the pipe was stopped by the portions of potato he had eaten for his dinner.

When I arrived, at 10 15 p.m., he was lying on his back, his head thrown back, chest raised and fixed, limbs rigid, hands clenched, eyelids spasmodically closed, and cornea turned upwards. The priest told me, that during the administration of the last rites of his church, the boy was seized with a sudden spasm, which threw a tin tray with some violence into the air; the tray was resting on his abdomen. I had an infusion of tobacco made, by pouring a pint of boiling water on about an ounce of cut Cavendish, heated over the fire, and strained; cold water was then added until the liquid was tepid. I made him drink two-thirds of this. Furious vomiting followed instantly. He swallowed the rest, with same result. The stomach appeared to be completely empty. He lay quietly on his back for about five minutes, when he was seized with a violent spasm, and quivering of the whole body, then complete opisthotonos and clenching of the hands. At about the middle he gave two short screams, as if he was in intense pain. I gave him another pint of the infusion in three doses, all followed immediately by vomiting. Another pint was prepared from the same ounce of tobacco; about a tea cupful of this was retained in the stomach for about five minutes; a second was retained somewhat longer. Profuse sweating now commenced, and he slept for a short time. I left him for about half an hour. On my return I found him lying quietly on his back; all his muscles, except those of the legs, relaxed, breathing less rapid, pulse slower, soft, and rather weak. I turned him on his side (which he was afraid to do himself). He drew up his knees, put his hands under his head, and went to sleep. The night nurse says he only turned once during the whole night to ask for a drink.

Wednesday morning.—Appears weary, and rather sulky. Hamstrings^a still hard and stiff. Pulse 120.

Thursday.—All his muscles relaxed; complains of some tenderness along the spine; appetite returning.

It appears to me clear, from this case, that the tobacco produced two important effects:—

1st. It produced vomiting, when all other means had failed, and so saved the patient from the yet future effects of the strychnia remaining undissolved in his stomach.

2nd. The physiological effect of the nicotine absorbed by the system, counteracted that of the strychnia already absorbed, as in the Cincinnati case, and as in the case of my own experiments on frogs.

From the statements of the boy to myself, checked by comparison with

^a *Note added by Professor Haughton.*—This obstinacy of the hamstring and adductor muscles appears remarkable, when considered in connexion with the similar tension of these muscles, which was observed in the case of idiopathic tetanus already given. It would almost appear as if the controlling power of the nicotine were limited to a certain tract of the spinal cord, and did not extend below it.

a known weight of strychnia, I estimate the quantity of the poison taken by him at four grains. The case itself furnishes a powerful argument in favour of the introduction of Nicotine into the Pharmacopœia, as the dose of this alkaloid might be regulated with any required degree of precision; whereas the strength of a decoction, or infusion of tobacco, is almost entirely unknown. Too much credit can scarcely be given to Mr. Smyly for his promptitude and courage in administering the only known remedy; but, at the same time, it cannot be denied that dangerous consequences will probably arise from the use of tobacco in such cases, as the strength of the remedy employed is unknown, and its own effects upon the system are only second in violence to those of the strychnia it is employed to counteract.

In concluding this paper, I have thought it useful to bring together, in one table, several of the best observed cases of strychnia poisoning, so as to show the dose, the interval till the first spasm, and the interval till death, when fatal. In forming this table, I have largely availed myself of Dr. Alfred S. Taylor's work *On Poisoning by Strychnia*. 8vo. London, 1856: p. 78.

Physiological Phenomena accompanying Cases of Poisoning by Strychnia.

Case	Authority for Case	Age and Sex	Dose	Interval till first Spasm	Interval till Death
			Grains	Minutes	Minutes
1	Booth and Bardsley— <i>Medical Times and Gazette</i> , July, 1856,	46 M.	1.50	—	165
2	Blumhardt— <i>Lancet</i> , 7th January, 1838,	17 M.	40.00	15	90
3	Bennett— <i>Lancet</i> , 31st August, 1850,	13 F.	1.50	60	150
4	Watson— <i>Edinburgh Monthly Journal</i> , December, 1845,	12 F.	0.75	20	65
5	<i>Cormack's Monthly Journal</i> , February, 1846,	26 M.	3.00	20	105
6	Theinhardt— <i>Casper's Wochenschrift</i> , 28th February, 1846,	M.	30.00	15-20	30
[7]	Warner— <i>Br. Am. Journal</i> , August, 1847,	39 M.	^a [0.50]	^a [5]	^a [14-20]
8	<i>Pharm. Journal</i> , 1848, vol. ii., p. 293,	F.	3.00	5-10	75
9	<i>Med. Times and Gazette</i> , 28th April, 1855,	12 F.	1.00	—	90
10	Lonsdale— <i>Ed. Mon. Journal</i> , 1855,	59 M.	1.50	30	60
11	Geoghegan— <i>Dub. Med. Press</i> , 25th June, 1856,	26 M.	5.00	15	25
12	J. B. Wilmot— <i>Med. Times and Gazette</i> , 8th March, 1862,	18 F.	—	15	35
13	P. C. Smyly— <i>Dub. Med. Press</i> , 19th March, 1862,	15 M.	4-5	20-40	—
14	J. P. Cook—Murdered by Dr. Palmer, 20th November, 1855,	28 M.	—	75	75
15	Lawrie and Cowan, 1853— <i>Taylor's Med. Jurisp.</i> , 7th edit., p. 208,	—	—	90	—
16	Anderson, 1848, Do. Do.	—	—	150	—

POSTSCRIPTUM.

CASE IV.—*Traumatic Tetanus—Recovery*.—Since reading the foregoing paper, I had an opportunity, through the kindness of Mr. Tufnell, of trying the effect of nicotine in a case of traumatic tetanus (John Dobbins) in Baggot-street Hospital.

Mr. Tufnell writes, 16th March:—"The tetanus case has been fairly tried under chloroform, and will, I think, not do well under it. The nicotine will, therefore, if successful, be entitled to full credit."

The case was one of compound fracture of the right radius, and will be published in full by Mr. Tufnell; I, therefore, only give the following facts respecting the effects of the nicotine:—

^a Sulphate of Strychnia.

The first dose of nicotine (one drop) was given on Sunday evening, 16th March, and produced rapid relief of the spasm of the muscles of the neck, chest, and abdomen, followed by profuse sweating; and the patient expressed himself as being much relieved.

From the evening of the 16th till the morning of the 18th nicotine was given, in doses of 1, 2, and $2\frac{1}{2}$ drops, in sherry and water, according to the urgency of the tetanic spasms. After the administration of the dose, in three minutes, the spasm was gone, and the muscles relaxed, and profuse sweating, accompanied by a smell of snuff, set in.

On the 19th the nicotine was not given, but was resumed on the 20th and 21st, with the same beneficial results as before. From the latter date to the present time (4th April) it was not found necessary to give nicotine, and the patient is now gradually recovering.

During the four days on which he was treated with nicotine, he received, by the mouth and rectum, altogether 54 drops= $32\frac{1}{2}$ grains; and the physiological effects appeared to be the same, whichever way the alkaloid was exhibited.

CASE V.—*Tetanus (Idiopathic) in a Horse treated by Nicotine.*—Dr. Barton has favoured me with the following account of the use of nicotine, injected into the cellular tissue of a horse's neck. Although the case terminated fatally, it is instructive, as showing the physiological action of the nicotine in this animal. There appears to have been the same effect in relaxing spasm, and relieving respiration, that is observed in man:—

A grey horse, 11 years of age, was driven 40 miles in a car upon the 1st of Jan., 1860, and driven back the same distance upon the following day. Upon the morning of his return, at starting, it was noticed that he was stiff—"going wide in hind legs." Next morning he could not turn in the stall, and was quite stiff. Was not attended to, and got worse. Sent in on the 6th to Mr. Martin, veterinary surgeon, in Peter-street, who found him in the following state:—Hair standing all over his body; muscles of neck and trunk rigid; belly retracted; legs stiff, and separated; nose protruded; unable to open his mouth more than about an inch; frothing at mouth; bowels moved scantily. Mr. Martin gave him a ball, which had moved the bowels. When I saw him I determined to try the nicotine solution. We employed it in the following way:—

Jan. 11th.—Gave him 20 drops of the solution of nicotine in an injection, with croton oil.

Jan. 12th.—Gave him 10 drops twice in his bran mash, but he only took some of it.

Upon the next day I injected beneath the skin of the neck about the same quantity—20 drops. During this treatment his muscles became decidedly softer, and he moved his legs better. His respiration became hurried, and he died upon the night after the injection. After death the muscles were not rigid.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY
OF DUBLIN.^a

TWENTY-FOURTH ANNUAL SESSION—1861-62.

DR. BANKS, President.

Oblique Fracture of the Femur.—DR. BENNETT exhibited a specimen of oblique fracture of the lower third of the thigh bone. He obtained the specimen in the dissecting room of Trinity College last winter, and knew nothing of its history.

The subject from whom the bone was taken, was an old woman, and it was evident, both from the condition of the limb, and from the complete union of the fracture, that the injury had occurred a considerable time before the death of the subject. The direction of the line of fracture was from before downwards and backwards, and also from without inwards—the reverse of the direction common in fractures of the lower third of the thigh bone. The lower fragment of the bone was, in consequence of this double obliquity of the line of fracture, thrown in front and to the outer side of the upper, overlapping it to a considerable extent. The most remarkable feature of the displacement was, however, the rotation which had occurred in the lower fragment; it was rotated on its long axis inwards to such a degree that, when the bone was placed on a table, so that the head and lesser trochanter rested on the table, the intercondyloid notch looked directly outwards. This triple displacement of the lower fragment was exactly the reverse of that which is seen in ordinary cases, in which the lower fragment passes behind, and to the inner side of the upper, and is rotated outwards by the action of the muscles on the inside of the thigh. The direction of the obliquity was evidently the cause of the first two characters of the displacement, but the third did not admit of so easy an explanation, as it must have occurred in spite of the action of the muscles on the inside of the thigh; the most probable explanation of it was that it was the upper fragment which had rotated, not the lower. This was the result of the pressure of the inside of the lower surface on the outer side of the upper surface of the fracture. This explanation was borne out by the fact, that, in the recent condition, the foot of the subject though inverted, was not so to the degree which the bone would lead one to expect. The number of cases of this form of displacement on record are very few, only four, which are to be found in a recent American work on fractures, by Professor Hamilton.—*January 25, 1862.*

Peritoneal and Mesenteric Tubercular Disease.—DR. MOORE made the following communication:—Ellen Blye, aged 7 years, was admitted into

^a These reports are furnished by Dr. R. W. Smith, Secretary to the Society.

Mercer's Hospital on the 3rd February last. She had two sisters and one brother, but they died of small pox when young. About a year and half ago this patient had measles, after which she complained of pain in the right lumbar region, with loss of appetite. From this date her bowels have been very irregular; at times diarrhea persisting; again for days obstinate constipation. On admission her general appearance was anemic in the extreme, about the eyelids almost pellucid; the sclerotic coat of the eye was of a stone blue colour; the lips had quite lost their pink tint; there were ascites and general anasarca. She constantly complained of cold; her appetite was fair, particularly for salt food. Her thirst was very great, and her craving for stimulants remarkable. The discharge from the bowels was of a pale yellow (straw colour) frothy, and very liquid. The urine was greatly diminished in quantity, had a healthy reaction, and contained no albumen.

We endeavoured to arrest the diarrhea with the compound powder of chalk with opium, but with only temporary effect. The child died exhausted on the 19th.

The *post mortem* examination revealed the following appearances:—The abdomen contained at least two quarts of watery serum; thready bands of lymph binding the visceral and parietal peritoneum in all directions, which was studded over with granular depositions. The mesenteric glands generally, were enlarged; and tubercular depositions were observable in the intestines generally, but along the large intestines and along the sigmoid flexure in particular.

The liver was enlarged and of a nutmeg character. The cavity of the thorax was much compressed, and the left pleura was slightly adherent, and a mere trace of tubercular deposition could be detected in the apex of the left lung; none in the right. The heart and pericardium seemed free from any serofulous deposition; and, as there were no symptoms of the brain having been implicated, it was not examined.

In this case the abdomen was puffed up and rotund, but in other cases which I have had an opportunity of observing, the abdomen was irregular and uneven, and various projections and intumescences could be felt which might readily have been mistaken for some of the special viscera; but in many of these cases the progressive effects of this disease give rise to prominence of the liver and spleen, and to pressure of the thoracic viscera evidenced by dyspnea. Again, organs become pressed downwards. Dr. Kyburz having found the vaginal portion of the uterus crowded down to the labia; pressure of the peritoneal sheets, including the gall duct between them, has given rise to an icteroid appearance in these cases; and in the case above detailed I have reason to believe the suppressed urinary secretion was due to pressure.

Sir H. Marsh and Dr. Churchill, in two cases recorded by them, found the intestines adherent to the walls of the cavity. The connecting

medium consisting of a thick layer of adventitious membrane, in some parts softened and presenting small depots of curdy matter. The visceral and parietal layer of the peritoneum were united, and a large cavity was discovered extending from the upper part of the right lumbar region to the iliac fossa; it was lined with a soft curdy greyish white substance, and contained about half a pint of thin pus with curdy matter. On the left side a somewhat similar cavity of larger dimensions was opened, from which a jet of dark brown fluid issued, very fetid. The mucous membrane of the large intestines appeared thick, soft, and vascular; sub-mucous glands enlarged, and many of them softened into a curdy looking substance.—*February 22, 1862.*

Inversion of the Urinary Bladder through the Urethra, with large Prolapsus of the Rectum, in a Female Child—Croup.—DR. BEATTY said, that on the 20th of January last a female child, aged a year and 11 months, was sent from the country to the City of Dublin Hospital, with a statement that there was something wrong with the genital and urinary organs. She was a fine, strong, handsome child. The appearance of the parts was most extraordinary. Just between the labia there was a scarlet tumour about the size of a chestnut; and it at once struck him that it was the inner surface of the bladder, similar to what has been seen in cases of vesico-vaginal fistula, or of malformation where the anterior wall of the abdomen is open above the pubes, and the inner coat of the bladder protrudes.

Upon touching it with his finger the child cried violently. It could be forced back, and even replaced by pressure; and the urethra was sufficiently large to admit of the easy passage of his fore finger into the replaced bladder, showing the case to be one of complete inversion of the bladder through the urethra. The mother told him that the inversion of the bladder did not take place until the child had a fit of crying when it was 12 months old. There was also a large prolapsus of the rectum, which occurred when she was nine months old, in consequence of an attack of diarrhea. The child remained in hospital up to Monday last, and continued quite well. Dr. Beatty kept her in for the purpose of devising some means to remedy the defect. On Sunday morning, however, she was attacked with severe croup, which terminated in her death on Monday evening. He was thus enabled to obtain the specimen now before the society, showing the bladder turned inside out through the urethra. It had now lost some of the scarlet colour, and something of its size. In the prolapsus of the rectum there was nothing remarkable; but, combined with the other defect, it gave the parts a very curious appearance. The uterus was *in situ*, and the ovaries were very large for a child of her age. Dr. Beatty had never seen another instance of such inversion. The child died of croup, as he before stated, and the specimen showed

a very perfect, well-formed false membrane, lining the trachea, and forming a tube within it. The gentleman who made the *post mortem* examination told him that the deposit of false membrane did not extend lower down than the bifurcation of the trachea.—*February 22, 1862.*

Narrowing of the Left Auriculo-Ventricular Opening, and of the Aortic Valves; Concentric Hypertrophy of the Heart.—DR. MACSWINEY presented the heart and a portion of the left lung of a woman, aged about 36, who died a few days ago in St. Vincent's Hospital, where she had been under the care of Dr. Mapother. As the specimen illustrated one of the modes of death not uncommon in cardiac disease; and, moreover, as it showed with what an enormous amount of disease in this organ prolongation of life was compatible, he had thought it worth while to bring the morbid parts before the Society. Dr. Mapother had been good enough to send the specimen to him, as he had had frequent opportunities of seeing the patient professionally over an extended period of years previous to her death.

Eight or 10 years ago she had an attack of pneumonia, which was complicated with some degree of acute cardiac affection. From this she with difficulty recovered; some delicacy of the chest remaining after her general convalescence. Four years ago she had a very severe attack of rheumatic fever, since which time she has, for the most part, been a chronic invalid, subject to paroxysms of urgent dyspnea, cough, and sometimes hemoptysis. She used to complain much of weakness at these times; would lose all appetite, and become depressed and feverish. Still she periodically returned to a state of comparative health. She rallied wonderfully during the last year, and was apparently quite well, save for a permanent increase in the force and frequency of the heart's action. About six weeks ago she became seriously ill again; she suffered from total loss of appetite, cough, and pain in the region of the heart, which distressed her greatly. She expectorated blood pretty freely, and had to remain in bed. Her decubitus was on the right side; she could not lie at all on the left side; and indeed generally preferred to remain in a sitting posture. When the stethoscope was placed over the cardiac region, at this time, he could detect a bruit at the apex; but so rapid was the heart's action that he could not be very sure whether it was systolic or diastolic; but it was most distinctly heard over the apex, and was, probably, systolic. Dr. Mapother had sent him a brief note of what he knew of the case, and, with the permission of the Society, he would read it:—

"Her symptoms," he writes, "during the time I saw her, were extreme dyspnea. She could only breathe in the sitting posture; weak and irregularly intermitting pulse—stopping sometimes every fourth, sometimes every sixth beat; congested lips, nose, and ears; extreme distress about the heart; the stethoscope discovered a loud bruit towards the apex of the heart which masked altogether that which the diseased

aortic valves may have produced. There were rales in the larger bronchi. She had hemorrhagic sputa from the time I saw her. There was no dulness, on percussion, over pleural cavities 10 hours before death, so that the two pints of turbid serum in the left, and one pint and a half in the right pleural sac must have been poured out shortly before death. This effusion was the only other abnormal condition (besides those in the heart and lungs) which was present. The circumscribed blood clots were numerous in both lungs, and very similar to that I have sent you."

Dr. MacSwiney exhibited the heart, and pointed out that it was most extensively and seriously diseased. The left auriculo-ventricular opening was very narrow—a mere slit—and the valves were greatly thickened, and otherwise diseased. There were deposits of a hard and gritty structure upon the aortic valves, which latter were contracted, giving rise to the condition of permanent patency. The tricuspid valves, also, had not escaped, but were thickened, and had some vegetations upon them. The heart was rather small; its walls somewhat thickened; its cavities enlarged. Dr. Law—to whom Dr. MacSwiney had shown the organ—considered it was a good example of concentric hypertrophy, a condition which he believed was only found present when the double lesion existed.

The lungs were highly congested, and presented an admirable instance of the state known as pulmonary apoplexy, and with which they were all so familiar that it was not necessary for him to dwell on it.—*March 1, 1862.*

Angina Pectoris.—DR. JENNINGS submitted to the notice of the Society the particulars of a case lately under treatment in the South Dublin Union Hospital, which he considered to be possessed of interest, not merely as being an instance of a somewhat unusual disease, but also, and more especially, as illustrating and corroborating, in a marked degree, the connexion which has been stated by Dr. Corrigan, so far back as the year 1837, to so constantly, if not invariably, exist between inflammatory conditions of the lining membrane of the aorta, and that most distressing disease, or rather symptom of disease, angina pectoris.

James Doolan, aged 41, formerly a porter in a flour mill, who had been, to use his own expressive language, a "hard-worker and hard-liver," and whose appearance betrayed the ruin wrought by habits of excess, was admitted on the 4th January last, labouring under a complication of disorders, the most immediately urgent of which was bronchitis of an acute character, but which was soon relieved by ordinary treatment—stated, that two years since he was suddenly attacked by an intense pain in the chest, which lasted for about 24 hours; after the lapse of which time it became somewhat relieved, but never totally disappeared. "Never since then," in his own words, "had he been the same man." For a considerable period previous, however, he was sensible of a fluttering action of his heart,

which, though annoying, did not prevent him from pursuing his ordinary avocations. About one week ago he was, for the first time, attacked with great difficulty of respiration, which prevents his assuming, even for an instant, the recumbent posture. When urged to lie down, for the purpose of making a more accurate examination, he positively refused—assigning as a reason his fear of instant death if he abandoned the sitting or erect position; and the anxious and apprehensive expression of his features forcibly conveyed the truth of his words. He soon constructed a pile of boxes and other matters, against which, sitting on the side of his bed, and leaning forwards, he rested his forehead, and which was the only posture in which he found any relief.

On making an examination of his chest, the undue resonance, and absence of the ordinary vesicular murmur, induced by old standing bronchitis, was readily detected; but Dr. Jennings was in no slight degree surprised by failing to discover the heart's action in the normal situation. His first conjecture was that this organ had been displaced by some previous cause; but the most prolonged and careful examination failed to detect more than an exceedingly faint and indistinct pulsation in any part of the thoracic region.

Attention was now directed to the epigastrium; and here, slightly to the left of the mesial line, the heart's rhythm was clearly distinguished, and its pulsations plainly seen; an occasional and ill-marked bruit was also heard in the same place. Here also there was visible fulness, and great tenderness on pressure. The pulse was 84, equal in both wrists, very feeble and thready.

In this state, and only partially relieved by any means adopted, he continued till the 22nd January, suffering occasionally from severe attacks of angina, during the paroxysms of which he was said, by the attendant, "to resemble a person drowning"—when now, for the first time, his countenance began to assume a livid hue, and œdema of the eyelids and ankles made its appearance. His general suffering also became more intense, and the lividity of face and anasarca of the feet and legs rapidly increased, until at length, the integuments giving way, and serum in great quantity escaping, the ankles and neighbouring parts became covered with sloughing sores. He thus continued, gradually getting weaker, until the morning of the 23rd instant, when, falling into a state of stupor, and having, for a few hours previous, lain down for the first time since his admission, death ended his sufferings.

Autopsy, made a few hours after death, disclosed the following state of parts:—

The lungs exceedingly emphysematous, overlapping, and concealing the pericardium. A mass of diseased and softened bronchial glands occupied the bifurcation of the trachea; and which, though it surrounded the left pneumo-gastric nerve, yet did not seem in any way to have affected its

structure. On withdrawing the margins of the lungs, and opening the pericardium, the heart, in a state of great hypertrophy—greater than he had ever before seen—was disclosed to view; and a bulging and dark-coloured prominence was observed on the ascending portion of the aortic arch—in fact an incipient, true aneurism. On slitting up the aorta patches of atheromatous and calcareous deposit were seen in the vicinity of the tumour, *where the lining membrane still maintained its normal colour.* At a slight distance further on, however, this membrane was found to be in a state of the most intense vascularity, varying from a scarlet to a deep purple hue, *but completely free from deposit of any kind.*

The valves of the heart and semilunar ones of the aorta, were apparently perfectly healthy; but the ventricular walls were greatly thickened. He proceeded to say that, in his opinion, they were not at all at liberty to regard in the light of cause and effect the presence of the aneurismal tumour and the anginal symptoms, for several reasons:—Firstly, That this affection is so rarely thus accompanied, even when it has made the greatest progress. Secondly, Its trivial size in the present case. Thirdly, The absence of any active inflammatory action in the immediate vicinity of the aneurism.

The view that he was disposed to take was, that the pain first felt two years ago heralded the commencement of the aneurismal disease and atheromatous deposit, which progressed more slowly, perhaps, than usual; and that the dyspneal and anginal symptoms felt at the close of last year resulted from the establishment of the inflammatory action in the lining membrane of the aorta, and in all probability was induced by some debauch, so frequent among the lower classes at this season.

That the fact of the heart's rhythm being almost inaudible in the thoracic region was satisfactorily accounted for by the enormous degree of hypertrophy this organ had attained, occupying completely (as it did) the pericardial sac, it was thus deprived of the room requisite for its normal action; and for this reason was heard and seen only through the yielding abdominal wall, against which, and the interposed diaphragm it was projected with unusual force. The great thickness of its ventricular walls, and the emphysematous state of the lungs, no doubt aided in producing the same result.—*March 1, 1862.*

Pneumonia.—DR. MACSWINEY presented the morbid parts taken from the patient in the following case, which he detailed:—Patrick M'Keever, a labourer, was admitted into Jervis-street Hospital, on March 2nd, 1862. He gave the following history of his illness:—He has been ill, with his present attack, for the last seven days. After exposure to cold, he felt ill and feverish, on Monday, February 24th. On the 25th, he had a severe rigor, during which he shivered all over. Next day he could not get up he was so ill, being weak, feverish, and coughing. On the 26th

he, for the first time, felt a heavy, dull, severe pain in his right side, posteriorly. He was obliged to lie on that side to relieve himself. He has had scarcely any treatment administered to him, and came into Hospital on the 7th day of his attack.

March 3rd.—Present state,—decubitus on right side; countenance anxious; centre of cheeks purplish coloured; breathing very much accelerated, cough severe; expectoration small in quantity, mucous, viscid, difficult to bring up, red-coloured and frothy; pulse 110, soft and compressible. The physical signs were as follows:—Lower two-thirds of right chest, posteriorly, were absolutely dull on percussion. In the same situation, auscultation could detect total absence of the vesicular murmur, and of rales; presence of bronchial respiration in a marked degree. Bronchophony existed when the patient was caused to speak in a loud tone, whilst the listener's ear was kept applied to the chest posteriorly. Respiration on the left side was normal; vocal fremitus was heightened on right side; tongue brownish-yellow. The condition of general prostration was very well expressed by his feeble voice, slow speech, failing memory, and torpid manner.

His treatment consisted in the administration of the diffusible stimuli, wine, and beef tea. A large blister was applied to the right chest, posteriorly. On March 5th, the dulness had extended up to almost the apex of the right lung; the pulse was 120, countenance very much depressed; but little expectoration, speech slow and laboured; decubitus on right side. There is no alteration in his physical signs or symptoms, and he takes his prescribed remedies.

The urine was copious, rather high-coloured, and passed without pain. A portion of it, acidulated with nitric acid, and then treated with a solution of nitrate of silver, yielded no white, flocculent precipitate, thus clearly indicating the absence from the secretion, in this instance, of the chlorides always normally present in urine. This clinical fact (Dr. MacSwiney said), which, he believed, had been first pointed out by Redtenbacher, in Germany, and since then confirmed by many other observers, was a very interesting one, and a very important one in a practical point of view; for it has been found that the chlorides disappear from the renal secretion, in many cases of pneumonia, at a period corresponding to the complete solidification of the lung; and that they reappear in it when resolution, and the consequent process of cure, has set in. Where does the chloride of sodium go in those cases where it is absent from the urine, in inflammation of the lung? Dr. L. Beale, in the 30th volume of the *Medico-Chirurgical Transactions*, has answered this query, by showing that it may be found in the sputa and in the inflamed lung itself, where, for some at present unknown cause, it is found to accumulate. The prognosis which Dr. MacSwiney pronounced was very unfavourable, the extent of lung engaged—the entire of the right—

influencing him much in arriving at this conclusion; as, he said, the amount of lung engaged in pneumonia was the one circumstance exercising the most powerful influence on the result. The patient died on the morning of the seventh, and a *post mortem* inspection of the body was made in the course of the day. An inspection of the morbid parts presented now would show the entire of the right lung solid as liver in structure, looking and feeling like liver too, and enlarged to such an extent, that it had bulged out the thoracic parietes at that side, and was deeply indented by the ribs. The pleuræ, at the right side, were adherent all along their opposed surfaces.

The left lung at its posterior inferior part, exhibited a congested condition, which denoted commencing parenchymatous inflammation there. There was no other diseased structure. The points of interest, Dr. MacSwiney thought, in this case were: 1st, The extent of lung implicated in the disease, it being rare to meet cases where more than about one-third of the lung is engaged. 2nd, The demonstration of the important clinical fact in connexion with the disappearance of the chlorides from the urine (Dr. MacSwiney here tested some of the patient's urine, in the manner above described, and contrasted the result with that obtained by acting upon some healthy urine, which he also exhibited). 3rd, The presence of pleural inflammation, which could not be detected during life by any other symptom except the pain; thus confirming, so far, the opinion of those who consider that the stitch, when present in pneumonia, always denotes pleuritis. And 4th, the difficulty of diagnosis, in a case such as this, where the entire lung was solidified, from a case of universal dulness at one side of the chest, due to pleuritic effusion.—*March 8, 1862.*

Fibrous Polypus of the Uterus.—Dr. CHURCHILL presented a polypus uteri which he had removed, two or three days previously, from a maiden lady. He stated, that about a year and a half ago she came to him in consequence of excessive monthly discharge, and that he could not detect the presence of a polypus. When she last called on him, a week ago, she was labouring under the same symptoms, with the addition of a watery discharge. On making an examination, he found a polypus growing from within the cervix. It presented nothing peculiar, being an ordinary fibroid tumour, which was easily removed. His chief object in bringing the case under the notice of the society was to exhibit an *écraseur* adopted by M. Maisonneuve, of Paris. It possessed the great advantage of being easily applied, and equally effectual. It was, besides, much cheaper than the *écraseur* in general use—its cost being only 10 francs.—*March 15, 1862.*

Diseased Placenta.—Dr. M'CLINTOCK said, that diseases of the after-birth were so rare, and their pathology was so much involved in obscurity,

that any new fact, however small, was worth being brought forward, and put on record. Before he showed the coloured drawing he intended exhibiting to the Society, he would advert to the pathology of the disease, which had been very unhappily termed "hydatids of the uterus," which was a great misnomer—for the disease in question was not hydatids, neither was the uterus the part affected. The disease was seated in the chorion, and consisted in a development of cysts on its outer surface. It was correctly called, by Mr. Paget, "cystic disease of the ovum."

There was no recorded instance of a living embryo being born of a mother who had this cystic disease. The opinion entertained in the present day was that the cystic disease in the chorion was a consequence, a result of the death of the embryo, and not the cause. There were just, then, two points which he wanted to dwell upon with reference to hydatids of the uterus:—First, That the disease occurred in the villi of the chorion. Secondly, That it was extremely rare to see an embryo expelled when the disease existed; and that there was no recorded example of a living embryo being so expelled. Nine cases came under his own care of the disease, and in one only was there any vestige of an embryo. These cysts very rarely became developed after three or four months; but when they originated after that period they were necessarily confined to the placenta.

Now these remarks were merely prefatory to the exhibition of this very beautifully executed and faithful representation of a placenta. The history of the case was as follows:—The patient from whom this placenta was expelled was confined in the Lying-in Hospital, at the end of eight months, of twins. There were two placentaë, of about the usual size, one of which was represented in the drawing. Both children were alive; and, on an examination of the surface of the after-birth, there were discovered four or five well marked cysts, the largest the size of a full grown grape. Now what was the nature of these cysts? He was not aware of any recorded instance where such a morbid appearance was found in the placenta. He had examined many diseased placentaë himself, and, except in that solitary instance, he never saw anything similar to this. They were true cysts, and contained a limpid yellowish-coloured fluid, of a somewhat syrupy consistence. On close examination these cysts—five in number—were found lying on the external surface of the chorion, and closely connected with it. Now, what was the nature of these cysts? In what light are they to be regarded? He was of opinion that their pathogenesis was the same as that of the cystic disease or vesicular hydatid of the ovum. They were certainly a cyst formation, attached to the outer surface of the chorion. If this opinion were correct, the case was a very singular one, as furnishing an example of the vesicular hydatids at so late a period of gestation as the eighth month, and also as being in connexion with a living fetus.—*March 29, 1862.*

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.^a
 TWENTY-FOURTH ANNUAL SESSION, 1861-62.

THIRD MEETING, 1ST FEBRUARY, 1862.

DR. DENHAM in the Chair.

DR. THOS. EDWD. BEATTY read the following paper on *Retroflexion of the Uterus*.

During the session of this society held in the year 1847, I had the honour of reading a paper on retroflexion of the uterus, which paper was afterwards published in the August number of the *Dublin Quarterly Journal* for that year. In that communication I spoke of retroflexion as an accident of "rare occurrence," and one that had been characterized by Dr. Ashwell (whose treatise had been published the year before) as "exceedingly uncommon;" and after giving the details of some cases that had come under my observation, I concluded in the following words:—"In conclusion I would observe, that it is not unlikely these cases are more common than is imagined; and that the diagnosis from the symptoms, and from an examination by the vagina and rectum, is not difficult." Subsequent experience has shown that this opinion was correct; and retroflexion, or retroversion, of the uterus is now known to be very far from uncommon. In the paper alluded to I drew a distinction between retroversion and retroflexion; and I am still disposed to consider the distinction as important, more particularly in reference to treatment.

Dr. Simpson discards the distinction; and while he admits the two forms of displacement, he includes both under the term retroversion.

That the uterus is capable of being retroflexed, that is, of being bent back upon itself, the fundus doubling down into the *cul de sac* of the peritoneum, while the cervix maintains its natural position, is a fact now well known to all investigators of uterine disease; and that the uterus is capable of being retroverted, that is, the whole organ being upset, the fundus falling down behind, while the cervix is turned up before, without any flexion taking place in the organ itself, must be equally admitted.

Now, it appears to me that the difference between these two conditions is so well marked as to warrant us in treating of two distinct affections; and, accordingly, the observations I am now about to make shall be confined to the true retroflexion. This condition is often met in conjunction with chronic inflammation and enlargement of the uterus; and sometimes it is accompanied by ulceration of the os and cervix uteri. It

^a These reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

is sometimes, however, discovered unconnected with any organic disease, and appearing to be a simple alteration in the form of the organ. Examples of the latter are more rare than those of the former; and when they do occur, are productive of much less suffering to the patient, and are more easily remedied. Most commonly, there is a certain amount of enlargement, the result of inflammation, which keeps the organ in a state of painful sensibility; and when this is accompanied by ulceration of the cervix, it gives rise to the distressing sensations complained of when the patient stands or walks; and more particularly during the act of defecation, when the contents of the bowels are forced past the tender fundus displaced and bulging into the canal of the rectum. Whether this inflammation of the uterus be the cause of the displacement, by enlarging the fundus, and thus giving it additional weight and tendency to topple over, or whether it is the result of the unnatural and strained position in which the organ is placed by the retroflexion, I will not now stop to discuss. It is enough for my present purpose to state, that the inflammation is at times, and not rarely, found to exist; and that when it is, it should have much influence in modifying the treatment. We are indebted to Dr. Simpson for the invention of several ingenious mechanical contrivances for rectifying these various displacements of the womb; and when a case is in a state fitting for their use, some of them, as I will show, are of very great value. But all cases are not so when first presented to us; and I conceive it is a want of discrimination between suitable and unsuitable cases that has led to unpleasant results, and condemnation of the instruments, from time to time. The treatment that will produce very satisfactory effects in one state of the organ will be very injurious in another. To attempt to force an inflamed uterus into its natural shape and position, and to keep it in that restored condition by artificial support, must only increase the existing inflammation, and if persevered in, will surely place the life of the patient in great danger. On the other hand, where there is no inflammation of the uterus, or if, when there is, proper means have been adopted to remove it, then there is no doubt the use of mechanical support may be had recourse to with great advantage.

In those cases of retroflexion in which the distortion has existed for a long time, when the fundus is enlarged, and painful when pressed with the finger either in the vagina or the rectum, and still more, when this condition is accompanied, as it often is, with ulceration of the os and cervix, our exertions must be directed, in the first instance, to remove these morbid conditions by rest, leeches, warm hip baths, light diet, vaginal injections, direct applications to the ulcers, and all the usual means known to be of service in such cases. When by such means the bulk and tenderness of the uterus are diminished, then the case will be benefited by having recourse to mechanical aid. The uterine sound

will enable us to replace the uterus in its natural position; but, as is well known, when it is withdrawn, the organ quickly resumes its abnormal displacement. The contrivances proposed by Dr. Simpson for the purpose of keeping the uterus in its proper position may be divided into movable and immovable. His first suggestion was of the first kind, the oval ball with the stem attached to it. The stem being passed into the cavity of the uterus, kept it straight as long as it remained; but it was found that the instruments lipped out of the canal, and became of no use in a short time. To remedy this, Dr. Simpson made use of a more fixed or immovable form of instrument, whereby the uterus is kept firmly fixed in one position by means of a framework of wire turning up over, and grasping the anterior portion of the pelvis. In Dr. Simpson's hands this instrument has answered its purpose, but in those of others its use has sometimes produced very great suffering, obliging the attendant to remove it from the patient. It appears to me that these failures have arisen from the too great and unnatural fixity given to the uterus by the instrument. I say unnatural, because in the healthy state the uterus is by no means fixed in its position, but moves about according as the bladder and rectum are filled and emptied, and also according as the position of the woman is horizontal or perpendicular. A rigidly fixed position is, therefore, not what the uterus is accustomed to or demands, and is not, in my mind, either necessary for, or conducive to, the rectifying of retroflexion of that organ.

The bent condition in which we find the womb in retroflexion is what we want to remedy; and this, I have found, can be accomplished without the complicated and formidable looking apparatus just alluded to, and in a way much less likely to produce inflammation. As I have said in the commencement of this paper, I confine my observations to the true retroflexion of the uterus. Now, the method I have found successful is the following:—If inflammation or ulceration is discovered, no mechanical appliance is used until they are removed; and when the uterus is brought into a condition to bear interference, it is then restored to its proper position by the uterine sound, if it has not become rectified by the treatment used for the reduction of the inflammation, a happy termination which is sometimes obtained. When replacement by the sound has been effected, the uterus must be kept in its proper shape, for four or six weeks, by Dr. Simpson's first described stem pessary with the oval ball at its bottom; but as that will not keep its place without an additional support, a flat box-wood pessary of the ordinary kind is introduced. This prevents the falling out of the uterine stem, and at the same time permits the metallic ball to move about over its smooth surface, thus obviating the danger of keeping the uterus permanently fixed. A stem introduced into the uterus, and kept in it in this way, produces no irritation. After a few weeks the vicious bend in the tissues

of the organ will be overcome, and the retroflexion is found rectified. But something more remains to be done. It is necessary, for some time, to prevent any relapse; and for this purpose, after the stem and box-wood pessary are removed, a simple ring of gutta percha is introduced into the vagina. This ring is made by bending a rod of gutta percha, a quarter of an inch in diameter, into a circle of the same diameter as that of the flat box-wood pessary just removed. When this ring is introduced into the vagina, and the woman stands up, it assumes the same position that a flat pessary does under the same circumstances, namely, a very oblique one. If the finger is passed into the vagina of a woman in the erect position whilst she is wearing a flat pessary, the instrument will be found lying, not horizontally, but very much sloped, its anterior margin being felt down near the orifice, while the posterior rises high up in the vagina, behind the cervix uteri. The ring, when introduced, assumes the same position; and the great advantage it has over the flat pessary is, that while the posterior part of its periphery rises up behind the cervix uteri, and offers resistance to the fundus if disposed to fall back, the cervix is permitted to pass through the wide ring and descend to its proper position in the vagina. The uterus, previously straightened by the uterine stem, is thus kept in its natural form by this very simple means. Six or eight weeks will be sufficiently long to wear this ring, at the end of which time it may be removed.

I have treated many cases of retroflexion in this manner, and with very great success. I have never found the uterine stem to produce pain, or require removal, when used as I have mentioned, although the patients have walked and moved about freely; and the ring gives so little annoyance, that those wearing them are not conscious of their presence.

DR. CHURCHILL exhibited specimens of a pessary, for retroversion, invented by Dr. Hodge, of Philadelphia. Each pessary consisted of an upright and a horizontal portion; the former to occupy the vaginal *cul de sac* behind the cervix uteri, whilst the latter portion lies along the vagina to the arch of the pubis. Dr. Churchill reminded the society that some years ago he exhibited a pessary constructed for the purpose of distending upwards the posterior *cul de sac*, but differing in form from Dr. Hodges. After trying both, Dr. Churchill pronounced his experience to be entirely in favour of Dr. Hodge's instrument, and he begged to recommend it to the society. He had tried it in ordinary cases of retroversion; and in one extremely difficult case, and with remarkable benefit. It occasions no irritation, absolutely precludes the retroversion when properly fitted, and will materially aid in raising the fallen womb when it cannot be at once reduced.

DR. SINCLAIR, after making some preliminary observations upon the

difficulty of preserving vaccine lymph in an active condition for any lengthened period, and having alluded to the various methods adopted for that purpose, brought under the consideration of the society the recent plan invented by Dr. Husband, of Edinburgh. Dr. Sinclair explained the various sources of difficulty and failure in the preservation and transmission of active vaccine, and proceeded as follows:—

“These difficulties have now been overcome by Dr. Husband’s simple and convenient invention.”

The following is his description of it:—

“A simple, straight, cylindrical tube, open at both ends, and of such dimensions as to fulfil the following conditions, upon which its peculiar value as means of preserving lymph for future *everyday* use, essentially depends.

“It must be, in the first place, of such tenuity that it can be sealed *instantaneously* at the flame of a candle.

“In the second place, it must be large enough to contain as much lymph as is sufficient for one vaccination.

“In the third place, long enough to admit of both ends being sealed hermetically without subjecting the charge to the heat of the flame.

“And in the fourth place, strong enough not to break easily in the mere handling.”

Dr. Husband also asserts that a certain standard must be adhered to, and care taken that they are not made too long to be manageable.

The following are the measurements he lays down:—

“Average length, $2\frac{3}{4}$ to 3 inches.

Diameter, 1-28th of an inch.

Thickness of wall, 1-200th of an inch.”

“The tubes need not,” he continues, “strictly and rigidly conform to the standard laid down, but they must not vary from it, except within certain limits, otherwise they become unfit for the purpose. Although their normal shape is cylindrical, some of them are more or less fusiform towards one extremity, and terminate there in a fine point; or one of the extremities may taper to a point without becoming fusiform. In either case this irregularity of shape is accidental, and is no disadvantage, but rather the contrary.”

Dr. Sinclair then exhibited some specimens of Dr. Husband’s tubes; and explained, by means of some coloured fluid, the method of filling them. He likewise showed how readily they could be sealed, and transmitted through post, or stored for stock; and also demonstrated the mode of removing from them the vaccine for the purpose of vaccination.

Having then largely quoted from Dr. Husband’s pamphlet, in order to acquaint the society with the inventor’s experience of vaccination from lymph thus preserved, Dr. Sinclair continued:—“It is needless to mention

the advantages of this method of preserving lymph, if Dr. Husband's statements are correct. In order to satisfy myself on the subject I procured a set of tubes, about the summer of 1860, and am now prepared to give the results of my experiments to the society:—

1861, Jan. 11,	Vac. 1,	Lymph 3 mos. sealed,	8th day, natural.
„ „ 15	„ „	1 mo. 3 wks.	„ natural.
„ Feb, 1	„ „	1 yr. 24 days	„ absent.
„ Dec. 17	„ „	1 yr. 4 mos.	„ natural.
From same supply. { „ 20	„ „	1 yr. 4 mos.	„ slow; 12th, nat.
„ „ 20	„ „	1 yr. 4 mos.	„ slow; 12th, nat.
1862, Jan. 21	„ „	1 yr. 4 mos.	8th day, very slow; 12th day, as if on the 8th.
„ „ 21	„ „	1 yr. 4 mos.	8th day, natural.
„ „ 21	„ „	1 yr. 4 mos.	„ s; 12th as on 8th.
„ „ 21	„ „	1 yr. 4 mos.	„ natural.
„ „ 24	„ „	6 months old	„ doubtful crusts.
„ „ 24	„ „	„ „	„ failed.

These 12 cases were operated on at the Dublin Cowpock Institution. I can present three more from private practice.

On January 27, 1861, Dr. Geo. Johnston vaccinated, from a tube I had given him, in which the lymph had been sealed six months. On the eighth day the vesicles were natural.

In the same month I vaccinated a child in my study, from lymph which had been sealed nearly seven months. On the eighth day the vesicles were natural.

During December last I vaccinated a young lady, aged 10 years, said to have been vaccinated in India when an infant, but who presented no trace of such vaccination. The lymph used in this case, was fully one year and a half old. On the eighth day one vesicle natural, other slow and rubbed.

Thus, then, I have 15 cases of vaccinations from lymph which had been sealed in Husband's tubes for periods varying from three to 18 months. Of these 12 were successful. Of the remaining three, one case did not present itself again at the institution; and on looking at the infant's address in the registry, it was found to be in a respectable locality. It is, therefore, fair to conclude that this was also a successful case, and that the child was shown to its mother's medical attendant. Were it unsuccessful the infant would most certainly have been brought back to us. She, therefore, was an unfit person to profit by a charitable institution, and doubtless remained away lest the lymph should be taken from the vesicles. The other two are decidedly unsuccessful; but on looking over the register it is found—1st, That they were brother and sister. 2nd, That the attempt had been made to vaccinate, from infection preserved on ivory

points, eight days prior to the attempt with the tube. With the first, there was subsequently a slight trace; the other, no trace whatever. 3rd, That, after having vaccinated them from the tube virus, the one that presented a slight trace on the eighth day (after the first attempt with the points), exhibited four doubtful crusts on the eighth day after the attempt with the contents of the tube. The other child exhibited no trace whatever. Thus there is sufficient evidence here to show, that, in all probability, it was some constitutional trait in these children which caused the virus to be resisted. The latter has been revaccinated from the vesicle, and the former is at present under observation.

On the whole, then, my experiments have been most satisfactory. I can, so far, endorse all that Dr. Husband has said in favour of his beautiful invention; and I am happy to have this opportunity of publicly expressing the obligation I am under to him for this great boon—an obligation I am sure every one will be ready to acknowledge who makes use of his capillary tubes.

SIXTH MEETING, 26TH APRIL, 1862.^a

DR. HARDY in the Chair.

DR. JOHN A. BYRNE read the two following cases of *Congenital Malformation of the Rectum*, which had come under his observation lately, in one of which the canal existed in its entirety, but was intercepted, at a short distance from the anus, by a membranous septum; and in the second case there was a complete absence of the lower or anal portion of the intestine.

The first case occurred in the Rotundo Lying-in Hospital, in May, 1860, during the period of his assistantship.

A woman, named Maher, was confined of her second child, a *male*, after a labour not attended by any unusual circumstances. The nurse of the ward, observing that the child did not pass anything from the bowels 24 hours after birth, although she had given some castor oil, brought the case under our notice. On our making an examination, we found the anus perfect; but, on passing a probe into the rectum, it was arrested at about three-quarters of an inch from the anus, by a membranous septum extending across, which could be plainly seen on examination by an ordinary aural speculum. The partition appeared to be composed of the rectal mucus membrane, and, except in point of colour, resembled the membrana tympani, extending across the meatus auditorius externus. On introducing the point of the little finger it was felt extending the entire way across, and it gave to the finger the sensation of being very dense and unyielding.

^a Fourth Meeting, special business. Fifth, papers by Drs. Denham, Sawyer, and MacSwiney; discussion adjourned.

It being quite manifest that the canal was obstructed, and that no feces could pass on account of it, and that the child would perish unless this could be perforated, and the channel made perfect, we immediately proceeded to do so. Accordingly, assisted by Dr. MacClintock and Dr. Halahan, I introduced the aural dilatory speculum within the anus; and having dilated the lower part, I passed a sharp-pointed bistoury through the septum for a short distance; but it appeared, from no meconium coming away, that so far we had not got through it. I then endeavoured to enlarge the opening by passing a probe and director through it; but they were arrested, and no good result followed; in fact, it was now quite apparent that the partition was of great density, and almost ligamentous in structure. I then passed a sharp exploring needle, which went in for a considerable way—and in its track a dilator, but with the same unsatisfactory result. It appeared to us all present that we had a difficult affair to contend with. But I will not detain the members of the Society by dwelling on those difficulties; I will only say, that by a succession of incisions, explorations, &c., we finally succeeded in passing a small probe, and afterwards a director, through it: and we all felt a delicious sensation of relief when we observed the groove of the director blackened by meconium, which now began to come away in considerable quantities; and, by dilating the opening with the little finger and larger bougies, we secured a tolerably free passage. During the operation there was some hemorrhage—but none afterwards. A gum-elastic bougie was left in for some time; and the little patient slept well, and appeared to find considerable relief; and the evacuations soon became natural. I need scarcely say that we took the precaution of preventing the closure of the orifice by the repeated and continued use of bougies, increased gradually in size, until the mother and child left the hospital.

I may mention to the members of the Society that since that time I have had constantly under my observation and treatment the infant, and have taken care to pass the instrument occasionally. The child, although delicate, has always had the channel free since; but, nevertheless, it has had that tendency to close which has always been observed in these kind of cases, and it has constantly required the use of instruments to defeat this tendency.

The second case which fell under my notice was that of a child brought, a few months since, to my house, by a nursetender who had attended the mother of the infant. This child was also a male. It was the woman's sixth child; all the others had been perfectly well formed. The attention of the nursetender was directed, on dressing the infant, to the remarkable fact that no opening existed in the usual situation of the anus, and, without much delay, she brought it to my house. On looking at the infant it appeared, in every respect but one, healthy and well formed. The penis and scrotum were perfect; but on turning forwards

the scrotum there was not the most remote trace of an anus ; but the skin in the space between the root of the scrotum and coccyx was very livid in colour, and it gave to the finger the sensation of being extremely thin ; and it appeared as if the intestine was immediately under the skin. So deceptive was this appearance that I imagined that a slight incision through the transparent skin would be quite sufficient to obtain access to the rectum. Accordingly, I made an incision with an ordinary scalpel, through the skin, from the scrotum back to nearly the os coccygis, and one in the centre of this, and at right angles, but no meconium came. I then passed in my finger and a director, and endeavoured to feel the rectal pouch, but failed. I afterwards enlarged the opening, and increased the depth of the incisions, but the same want of success attended.

Under these circumstances I thought it better to have additional advice, and Dr. Hutton kindly assisted me. We passed a bistoury, carefully guarded, into the first incision, and cut through the cellular tissue lying in the pelvic cavity, and endeavoured to find out, by examining with the extremity of the finger, whether the rectum terminated in a pouch near the sacrum, as it sometimes does in those cases, but we could not feel anything resembling it, although the finger readily reached the promontory of the sacrum ; and if it had been in this direction it should certainly have been felt. We, therefore, deemed it advisable not to interfere further upon that day, and accordingly plugged the incision with some lint, and left it so until the following day, hoping that the rectum, being more distended, would be more easily felt ; but on renewing our attempts we were again disappointed, and could not feel anything. Now, the question was, what was to be done ? The effects of the intestinal obstruction began to manifest themselves upon the infant ; the belly had become swollen and very tympanitic ; the skin had become very deep in colour, and extremely hard, like brawn ; the poor infant whined feebly, and evidently was dying. It had not vomited at all, however, from the commencement, and it passed very little urine.

Dr. Hutton was of opinion that it would be useless to make any artificial opening, as he had not seen any case where the operation had been successful ; and I was guided by his opinion and his experience. The infant died on the next day—having lived more than 60 hours. The body presented, in a still more marked manner after death, the appearances which I have described. I was not permitted to make a *post mortem* examination, and consequently am unable to inform the members of the Society in what manner or where the lower extremity of the rectum terminated.

On comparing those two case we perceive that there is a great difference. In the first, the rectum was continuous all the way down to, but obstructed by a septum near the anus ; and the septum being removed, the continuity was perfected ; whereas, in the second, it would be impos-

sible to say where it terminated. In cases similar to the latter we are recommended by some surgeons, after failure to reach the rectum and open its cecal extremity, to make an artificial anus, as otherwise the infant must of necessity perish, on account of there being no fecal outlet. And the operations proposed have been many. Thus Littre, in 1720, proposed to make an opening in the sigmoid flexure of the colon, above the left groin. In some of the cases operated on recovery took place, and in others the operation was useless. The cases of recovery were very few, however.

The next operation is that of Callisen, who, to avoid injuring the peritoneum, operated from behind, by cutting through the lumbar muscles, and so got at the posterior surface of the colon where it is devoid of peritoneum. Roux tried this plan, but the infant died in a few hours.

Amussat's operation, nearly similar, has succeeded, but it was performed upon old people, and for obstructions from other causes, so that it is not fair to judge from the result in those cases what the result would be in infants.

Should a similar case occur to me again I think that I would not hesitate to give the infant the benefit of the chance of recovery by Littre's operation, and for this reason—that it affords at least the chance of life; whereas, by not interfering we remove all chance, and see the infant perish miserably before our eyes; and I think that, as far as I can collect from the statistics of eight cases in which the operation has been performed on infants, we have some chance of success, as three recoveries are recorded.

DR. HALAHAN on the treatment of *Prolapsed Funis*.—The complication of a prolapsed-pulsating-funis, with a head presentation, is a very untoward circumstance, and one that requires skill and the clear and decisive judgment of the medical man; he having to act with the greatest promptitude, as the time this accident occurs most frequently is at the rupture of the membranes; and as any delay, generally speaking, is death to the fetus, an event which will bring more or less blame with it. That we all may expect to meet such cases, is certain, if we have any practice at all. In illustration of which I may mention, that the funis prolapsed 304 times out of 51,061 patients in the practice of the several masters of the Dublin Lying-in Hospital, who have favoured us with a published report, which is nearly once in every 168 labours, so that it behoves us to be ready for the emergency. The mortality among the children is of course very great; according to the reports before referred to, a little more than two-thirds. This, however, includes all cases in which the funis prolapses, no matter what the presentation along with it, or what the state of the cord, whether pulsating or not, at the time that the accident was discovered; but I think it is very nearly the

average mortality in cases where it occurs at the rupture of the membranes in head presentations, and I believe that this mortality is increased if the membranes rupture early in the labour. It is not my intention to offer any observations upon the different modes of treating this accident; I wish merely to bring under notice the particulars of 10 cases in which this complication occurred during the time that I was assistant-physician to the Dublin Lying-in Hospital, and in which reposition was attempted, to briefly explain the manner in which I performed this operation, and then to read the cases and show the results.

There are many positions recommended in which you may place the woman so that you may with greater certainty or chance of success make this attempt. I do not for one moment wish that anything I may say would give the idea that I consider these positions useless, for in some cases they ought to be had recourse to, and no doubt with good cause of hope. The woman lying on her left side answered all my purposes, and I never consequently tried any other, and I have replaced the funis in the first and second stages of labour, in first and after pregnancies, and in mature and premature labours, by the following method. Having first discovered which side of the pelvic cavity the prolapse came from, I introduced the two fore fingers of my right hand into the vagina, when the funis came down between the head and the right side of the pelvis, of my left when it was to the left side of the pelvis. I do not mean, however, to say that this mode of procedure will answer each operator, although I found it to do so; and when I could not succeed with one hand, I always tried the other, and have, so far, never failed. As soon, then, as I introduced my fingers, I brought the two ends into close contact, pushing up the funis at the same time; when I got them in apposition, I worked my fingers up and down, having the funis caught very loosely between them, and when the loop became very small, I placed it on the tip of my fingers and pushed it well up above the brim of the pelvis, (and in but two cases has it prolapsed again,) and then I desired the woman to bear down. If, in the first stage, I only allowed her to do so for about five minutes, and then let nature run her course; but if in the second stage, or nearly so, she might continue bearing down. In one of the two cases where the funis prolapsed after reposition had been effected, I regret we did not continue our exertions, even if the circulation would not have been re-established, and I believe that it would have been a successful case if we had replaced it again, but at the time we thought it useless to persevere.

There have been many contrivances proposed and adopted for the purpose of keeping up the funis when replaced, but I do not think any such are at all necessary; in proof of which I may remind you that it only prolapsed again twice in these 10 cases. In the case in which

the fetal heart was beating at birth, we did all we could to resuscitate it, and did not give up our exertions for about half an hour; so this case, although numbered with the dead, ought not to be considered a failure, inasmuch as the fetal heart was beating at birth, the interval being 35 minutes.

TABLE of Ten Cases of Funis Presentation, in which Reposition was attempted.

No.	Hours III	Length of Second Stage				Children, Sex, &c.				No. Preg- nancy	Stage in which Funis was discovered		Membranes Entire or Ruptured at time		Position of Head	Interval between Reposition and Birth		Mode of Delivery	Result to Mother			
		Born Alive		Dead Born		M.	F.	M.	F.		M.	F.	1st	2nd		Entire	Ruptured		H.	M.	Recovery	Fate
		H.	M.	H.	M.																	
1	56	2	30	1	-	-	-	-	2nd	1	-	1	-	3rd	18	-	Forceps	-	1			
2	13	-	10	-	1	-	-	-	4th	1	-	-	1	-	-	15	Natural	1	-			
3	12½	2	40	1	-	-	-	-	3rd	-	1	-	1	4th	1	-	"	1	-			
4	9½	1	-	-	-	-	1	-	3rd	1	-	-	1	-	-	10	"	1	-			
5	14	-	30	1	-	-	-	-	2nd	1	-	-	1	3rd	-	40	"	1	-			
6	6¾	-	30	-	-	-	1	-	2nd	1	-	-	1	4th	-	35	"	1	-			
7	35¾	2	30	-	-	1	-	-	1st	1	-	-	1	-	12	-	Craniotomy	1	-			
8	20	-	15	-	1	-	-	-	4th	1	-	-	1	1st	2	-	Natural	1	-			
9	8	-	45	-	1	-	-	-	2nd	-	1	-	1	3rd	-	30	"	1	-			
10	24	-	30	1	-	-	-	-	1st	1	-	1	-	1st	-	25	Forceps	1	-			
				4	3	1	2			8	2	2	8					9	1			

I have placed in a tabular form these cases, showing the length of labour in each case, as well as the length of the second stage, the sex

and state of the child born, the number of the pregnancy, the stage in which the funis was discovered, whether the membranes were entire or ruptured at the time, the position of the head in those cases in which it has been noted, the interval between the birth of the child and the time reposition was accomplished, the mode of delivery, and the result to the mother. It will be seen there were seven children born alive, and three dead born; that the prolapse occurred eight times in the first stage, twice in the second; that the membranes were entire in two of the cases, and ruptured in eight at the time the funis was discovered; that the forceps were used twice, the perforator once, and that seven were left to nature; that nine of the mothers recovered, and that one died from other causes entirely; and that the prolapsed funis in no way contributed to that end. I shall now read the brief notes of the cases.

I.—Mrs. N. sent for me, on the morning of the 14th November, 1860, to attend her in her second confinement. Upon examining immediately after my arrival in the house, I found the os uteri dilated to about the circumference of a shilling, the membranes entire, and the presenting parts a head and a pulsating funis. The vagina much contracted, and the os very unyielding, on account of old cicatrices, no doubt formed since her former labour. I called upon Dr. Denham, to whom I was indebted for having been in attendance at all, and he very kindly came with me to see her, and advised me to place her on the eighth of a grain of tartar emetic, in combination with five drops of laudanum, in a mixture, every hour; and, when the os became a little more than half dilated, to perform the operation of version. Unfortunately for the child, as I then considered it, the membranes broke, at seven o'clock in the evening. I saw her one hour after; the os was still only the size of a shilling, but yielding and dilatable, so much so that I considered I could with perfect safety turn, if she were fully under the influence of chloroform; but, when I proposed such a thing to her husband, he peremptorily refused to allow her to be placed under it: and no persuasion that I could use had the effect of causing him to change his mind, although I fully explained to him the great danger the child was in, that its life would be sacrificed, as I could not undertake the operation without putting her under the influence of chloroform, for two reasons: one, the os not being half dilated; the other, the great irritability of the woman, which put it beyond the possibility of even a hope of being able to turn. I must say, that at the moment, I did not know what to do. I could not apply the forceps or hasten delivery in any other way—and I thought it was a forlorn hope to attempt to replace it—but I considered it much better to make the attempt than to allow the child's life to be sacrificed without making some effort to save it; so the first thing I did was to find out from which side of the pelvis the coil came down, and then to bring one side (the anterior one) over towards the sacrum, which I easily did, pushing

it slightly up above the head at the same time, using the two forefingers of my right hand—the funis being prolapsed from the right side—when I got the two ends in apposition (as we may say), I commenced to return the coil with the ends of my two fingers, and in about five minutes had the satisfaction of getting the loop, now barely half an inch long, on the tip of my fingers, and pushing it up well above the brim. This being accomplished, I desired the woman to bear down, which she did, I at the same time withdrawing my fingers. In about fifteen minutes I examined her again, and was delighted to find no cord in the vagina, or within reach. I then asked Dr. Paine (who kindly accompanied me to assist in the operation of turning), to examine and feel if he could now detect the funis. He was surprised to find it gone; not being satisfied, as to the success of the attempt, we examined with the stethoscope and heard, with no small degree of pleasure, the beating of the fetal heart. Labour went on slowly; the pains making little effect upon the os for some hours; however, in 15 hours after reposition had been accomplished the os became fully dilated; or rather, I think, torn or ruptured sufficiently to allow the escape of the head. Symptoms became urgent, the pulse rapid, countenance pale and anxious, together with very great prostration. I consequently, under the advice of superior skill, delivered her with the forceps, exactly 18 hours after replacing the cord. The child, a boy, was alive, and I believe is so at present. The woman gradually sank and died on the third day. I do not consider that the prolapsed funis in any way contributed towards this unfortunate circumstance: but rather that it was occasioned by the giving way or tearing of the old cicatrices, which were situated around and about the os uteri; but this is foreign to the point.

CASE II.—B. H., admitted into the Dublin Lying-in Hospital, on the morning of the 15th November, 1860, in labour of her fourth child. I saw and examined her about eight o'clock, and found the os nearly fully dilated, membranes ruptured, the head presenting, with a large coil of the funis in vagina, pulsating. I immediately acquainted the then master of the hospital (Dr. M'Clintock), of the circumstance, and he came to the ward at once. She had been lying on a bed, but I desired that she should be moved to the couch—a small bed on which the women are, if possible, delivered. The moving about brought on some pains, and when Dr. M'Clintock examined, he found the head low down, and the os all but dilated. I mentioned to him the circumstance of having had a similar case the evening before, and of having replaced it with very good effect, as then 12 hours had elapsed and it had not prolapsed again. He said he would rather give a dose of ergot and apply the forceps. He at the same time leaving the ward, and saying he would be back in 15 or 20 minutes, and that I might attempt to replace it. In the meantime she got ergot, and I went down for my forceps; and, on my return, made the attempt.

At first I thought I had no chance of success, as I could not return it with my right hand; but as the coil was prolapsed from the left side of the pelvis, I then introduced the two forefingers of my left hand, and with them replaced the funis above the head. The moment I did so I desired the woman to bear down well, which she did; the cord never prolapsed again, and the child (a girl) was born alive and strong in 15 minutes after reposition had been effected. Dr. M'Clintock not considering it necessary to hasten delivery, it going on so very favourably, she was delivered naturally. On the eighth day the mother and child left the hospital alive and well.

CASE III.—A. B., admitted into the Dublin Lying-in Hospital, on the 30th of November, 1860, in labour of her third pregnancy. At about one o'clock in the afternoon she gave birth to a son, when it was discovered that there was another fetus in utero. Dr. M'Clintock saw her very shortly afterwards, and found a pulsating funis presenting before the head, and the membranes ruptured. He then replaced the coil above the head, and gave her a dose of ergot to hasten delivery, which took place one hour after reposition had been effected, she giving birth to another son, alive and strong. She and her children left the hospital on the ninth day alive and well.

CASE IV.—M. M., admitted into the Dublin Lying-in Hospital, on the 19th day of January, 1861, in labour of her third child. Upon examination it was found that the funis, pulsating, was prolapsed before the head of the child; the membranes being ruptured at the time, and the os uteri being very nearly fully dilated. I replaced the cord above the head, and desired her to bear down, which she did at first, but afterwards would not continue, as she said she was not in labour. It prolapsed again, and, in the attempt at reposition, we considered the pulsation had ceased, and, consequently desisted any further interference, and in about seventy minutes she gave birth to a girl, dead. She left the hospital on the seventh day, against our consent.

CASE V.—A. G., admitted into the Dublin Lying-in Hospital, on the 1st of February, 1861, in her second labour. Upon examination I found the funis very much prolapsed, just at the vulva, but pulsating, and the head presenting above it, the membranes ruptured, and the os uteri about half dilated. As soon as I found this complication, I commenced to replace it, which I was able to accomplish with perfect satisfaction in about five minutes, and in forty minutes after reposition was effected she gave birth to a boy, alive and strong. She and her child left the hospital alive and well, on the eighth day.

CASE VI.—C. B., admitted into the Dublin Lying-in Hospital, on the 3rd of February, 1861, in her second labour. Upon examination (which was accomplished with very great difficulty) I discovered a pulsating funis prolapsed before the head of the fetus, the membranes ruptured,

and os uteri half dilated. I at once attempted to replace the prolapsed cord, but could do nothing towards that end, on account of the very great irritability of the woman, she placing herself on her back, each time that I attempted any manipulation. But not wishing to allow this opportunity to pass, I placed her under the influence of chloroform, having first gained the advice and sanction of the master (Dr. McClintock), and then with difficulty, as she never became fully under its influence, I replaced the coil that was prolapsed. In thirty-five minutes after reposition was accomplished, her child, a girl, was born, and although the fetal heart was beating, it could not be resuscitated. It was a premature child, and her former one was also still born. I have placed this child among those that were born dead, and, consequently, in which reposition failed, in consequence of respiration not having been fully established. The mother left the hospital quite well, on the eighth day.

CASE VII.—M. S., admitted into the Dublin Lying-in Hospital, on March the 19th, 1861, in her first labour. Upon examination, the late Dr. Wm. Kennedy, my then coadjutor, discovered the funis prolapsed before the head of the fetus, beyond the vulva, and pulsating, membranes ruptured, and the os not half dilated. He sent for me, and I, without much trouble, replaced it above the head of the child. It was late at night when I replaced it, and Dr. Kennedy, with his usual attention, whenever any particular case came under his care, staid up with this woman all night, and watched her most carefully. He found that in about two hours after I saw her, the funis prolapsed again, and replaced it; but during the night it again became prolapsed, and, unfortunately, ceased its pulsation before it was returned, which he did a second time. It did not, however, long continue in its proper place, but again became prolapsed, and the head was lessened twelve hours after first reposition took place, to save the perineum from laceration. It was a boy that she gave birth to. She left the hospital, on the eighth day, quite well.

CASE VIII.—A. Q., admitted into the Dublin Lying-in Hospital, early on the morning of July the 1st, 1861, in her fourth labour. The os being dilated to about the circumference of a penny, the membranes ruptured, and the head at brim of pelvis presenting, with a loop of the funis prolapsed before it, in which the pulsation was very weak and feeble, I at once commenced the task of replacing it, which, in a short time, I was able to accomplish. Labour went on slowly, considering it was her fourth pregnancy, and the child, a girl, alive and strong, was born two hours after reposition had been effected. The woman and her offspring left the hospital, on the eighth day, alive and well.

CASE IX.—R. M., admitted into the Dublin Lying-in Hospital, on the morning of August the 29th, 1861, in her second labour. Upon examination it was found that the os was fully dilated, the membranes ruptured, the head entering the brim of the pelvis, with a long coil of pulsating

funis prolapsed beyond it. I saw her soon after admission, and commenced to replace it, which I was able to do in about ten minutes, having to cease manipulation during the pains which were bearing down, or expulsive ones. The child was born in half an hour after I replaced the cord, alive and strong. The mother and child left the hospital alive and well, on the eighth day.

CASE X.—M. N., admitted into the Dublin Lying-in Hospital, on November the 19th, 1861, in her first labour. Upon examination it was discovered that the funis prolapsed before the head, the os was half dilated, and the membranes entire; she was not at the full term of gestation. Under all the circumstances the master (Dr. Denham) considered it better not to introduce the hand into the uterus, but to wait until the os became fully dilated, and then to rupture the membranes, and attempt to replace the cord. Having been given the care of the case, I, some hours after, ruptured the members, and returned the funis; but as I did so, I could not distinguish any pulsation in it, and considered the only chance I had of saving the child, was to deliver with the forceps at once, which I did, and had the satisfaction of finding the fetus alive and strong, although twenty-five minutes had elapsed from the time reposition had been effected. It did not, however, survive long, for it died on the fourth day of its existence. The mother left the hospital well on the eighth day.

DR. M'CLINTOCK related the following case of *Inversion of the Uterus*.

Mary O'Hara, aged 66, never married, was admitted to the chronic ward of the Lying-in Hospital, 1st April, 1862. Her changes ceased 15 years ago; and she never had any symptom of uterine disease till the present complaint seized her, six weeks ago, under the following circumstances:—She had been engaged in washing, when her stomach got sick, and she retched violently. During these efforts she suddenly felt something “fall from her,” and a large tumour made its appearance beyond the vulva. Some hemorrhage took place at the same time. The tumour was replaced by a medical man; but descended again, and remained down. This tumour (of which a coloured drawing was exhibited to the society) was fully seven inches in length. Its base, or that part nearest the pelvis, was the everted vagina; then came the completely inverted uterus, and lastly a fibrous polypus the size of a chestnut, growing from the fundus of the inverted uterus by a short neck. The openings of the Fallopian tubes were discernable, and each admitted the passage of a probe for about an inch or more. There were several large patches of ulceration on the uterus and vagina, and a very abundant muco-purulent discharge was constantly present. The case was seen by Drs. Churchill, Denham, Halahan, Hardy, Kidd, and the hospital assistants—Drs. Kirkpatrick and Cronyn. The tumour was replaced within the pelvis by Dr. Denham, but it soon prolapsed again. On the 14th April, Dr. Denham,

the master of the hospital, removed the polypus by means of the *écraseur*. Although this was worked very slowly, yet a smart hemorrhage took place, three or four arterial branches spouting at the same time. The saturated solution of perchloride of iron in glycerine was applied, but was wholly inefficacious to check the hemorrhage. Direct firm pressure alone controlled the loss; and this had to be kept up with the finger for some hours, by which time all disposition to bleed had ceased.

On the 21st April, Dr. M'Clintock, who had charge of the hospital in the absence of the master, Dr. Denham, applied a whipcord ligature around the uterus, near its junction with the vagina, and retained it *in situ* by means of Levret's canula. She complained of much pain when this was drawn tight. The same evening the catheter had to be passed, and there was a good deal of bloody discharge from the tumour. No serious or alarming symptom made its appearance, and the ligature was left on, being occasionally tightened, till the morning of the 24th, when Dr. M'Clintock, aided by Dr. Churchill and the assistants—Drs. Kirkpatrick and Cronyn—completed the extirpation of the uterus with the *écraseur*, the chain of which was placed in the furrow made by the ligature. Although the uterus was thoroughly strangulated by the ligature; still the latter had cut only a very short distance into the substance of the organ. The action of the *écraseur* caused her very intense pain, which she bore with the greatest fortitude. The pulse flagged, and a profuse perspiration broke out during the operation. Some bleeding ensued, but was arrested by cold.

From this time forward she progressed satisfactorily, no bad symptom of any importance having presented itself. The uterus and the polypus were exhibited to the society. The former was about the size of an apple; and the remains of the broad ligaments were visible in its peritoneal cavity. From the time of the application of the ligature small doses of opium were administered to her every night, to annul pain and procure sleep—both which effects were obtained.

Desiccated Coagulum expelled from the Uterus.—DR. J. R. KIRKPATRICK exhibited a substance solid throughout, and forming a perfect model of the interior of the uterus, of a mottled red and black colour on the outside, which was expelled on the twenty-fifth day after delivery from the uterus of a patient named Bridget Flinn, aged 19, who was delivered of her first child in the Lying-in Hospital, Rutland-square, last February.

There was some slight red discharge from the vagina for two or three days before its expulsion, but no pain was complained of. She was dying of congestion of the lungs, and expired about 10 hours after it came away, having been in a semi-unconscious state for three or four days previously.

Her labour had been favourable; no hemorrhage. She went on very well for the first eight days, and had *no uterine tenderness all through*. On examination after death, the uterus was found of the usual size for the period after delivery, quite free from any sign of inflammation, and containing a small quantity of black semi-coagulated blood in its cavity.

TRANSACTIONS OF THE COUNTY AND CITY OF CORK
MEDICAL AND SURGICAL SOCIETY.^a

SESSION 1861-62.

DECEMBER 23rd, 1861.

DR. POPHAM, President, in the Chair.

Annual Report of the Lying-in Department of the Cork Union Workhouse, for the Year ending December, 1861. By JOHN POPHAM, A.M., M.B., T.C.D., Licentiate of the King and Queen's College of Physicians, &c., &c., Medical Officer.

In presenting a brief report of the Obstetric department of the Cork Workhouse, I cannot but be sensible that, to readers familiar with the admirable statistical returns of the Dublin Rotunda Hospital, and which have been furnished from such a vast number of patients by successive Masters of this valuable institution, our amount of cases must appear trifling. As, however, it is probable that the class of patients relieved in workhouses is, in some measure, of a different grade from the persons usually admitted into ordinary lying-in hospitals, and about which we have not, as yet, very accurate details (I allude to the Lock and the unmarried cases), I hope that, small and imperfect as is this report, it may not be without interest.

The whole number of cases delivered during the year, in my wards, amounted to 147. Of this number 29, or one-fifth, were transferred from the lock wards of the house, which generally contain about one hundred patients, of which class the prevailing disease is syphilis. Of the 29 cases, 11 aborted at various periods of gestation, and 18 were delivered of living children. Some of these children were, of course, puny and covered with syphilitic blotches, but the great majority of them consisted of full-grown, healthy children, whose thriving properties were by no means deficient. I may observe here that it causes no small surprise to visitors of this department, to see there such fine children, the general opinion being, as is well known, adverse to the probability of

^a These reports were supplied by Dr. W. P. Bernard, Secretary to the Society. We deeply lament to have to announce that, while these sheets have been passing through the press, he too, like so many other labourers in the cause of humanity, has fallen a victim to typhoid fever, caught in the discharge of his arduous duties as a dispensary physician.—ED.

women of this condition bearing a healthy offspring. Of course, we must receive statistics of this kind with some modification; but it is enough to mention here the simple facts.

While upon this subject, I may remark upon the extraordinary attachment which, according to my observation, their mothers show towards this class of children, and which is also somewhat different from the current opinion. I think that I seldom, if ever, witnessed such genuine maternal affection as was shown towards their off-spring by most of these poor women. I am confident that workhouses, whatever else may be their faults, have prevented many cases of child-desertion, or, worse than desertion, of child-murder. By providing an asylum where the outcast female can remain in safety during parturition, the laws of the land allow her an opportunity for the avoidance of crime. She might otherwise be driven, unprotected, to the necessity of being delivered of her spurious offspring in a ditch, and of thus exposing it to almost certain death. The former anomaly which existed between the penalties of the laws for such a crime, and the want of proper safeguards against its commission, has been in part done away, and a presumptive means of reclaiming the mother, even for a time, has been afforded, by awakening in her degraded condition an ennobling feeling. That the possession of the child does exercise a very strong influence in many cases, is certain; and in the community of feeling which loss of caste produces amongst these women, a want of maternal feeling is regarded with strong reprobation. Independent of the feeling of pity for an innocent being deprived of the usual paternal protection, and exposed to the frowns of society as the offspring of guilt, the mother is drawn to it as giving her some compensating object to live for; she feels that she has a hostage for a return to her lost social position in her child. If the child should die, in some cases grief for its loss has led to thorough reformation, and, though it may not be the usual result, yet the maternal feeling, once excited, is never wholly forgotten.

Of the women delivered in the workhouse, 58 were married, and 89 were unmarried; deducting from the latter the 29 cases belonging to the lock wards, 60 cases remain whose offspring was illegitimate. I ought, however, to mention, as some explanation of this large number, that the workhouse is the only hospital in Cork which receives unmarried puerperal females, as the Cork Lying-in Hospital is intended only for married women.

Besides the 11 cases of abortion among the inmates of the lock wards, there were 12 others, making 23 in all. Of the latter number three occurred in the case of married women, and nine of unmarried. We had thus 20 cases of abortion and miscarriage in 89 unmarried females, and only three in 58 of the married cases, showing that, in the former instance, about two children out of nine failed to arrive at perfection, and in the latter only two out of 39. Independently of the importance of marriage as a civil

and religious rite, closely interwoven with the happiness of social life, facts like these supply the strongest commentary upon its physiological value, as the best safeguard for the preservation of the human species.

As, in the whole number of parturients, there was one case of twins, and one of triplets, the total number of children, supposing all to have come to perfection, would have been 150. If we deduct the 23 cases of abortive birth, we have 124 women yielding 127 children. Of these the number of male infants born alive was 70, and of females 57. It is a curious circumstance that, while among the married cases the proportion of the two sexes was about equal, being (exclusive of the abortive cases) 27 males to 29 females, there was a remarkable excess of males among the unmarried, namely, 43 males to 28 females. Of course, from such small numbers, it would be imprudent to generalize hastily, but the circumstance is significant.

The mortality amongst the infants born alive, within the fortnight of their stay in the lying-in wards, amounted to 12. Of these, three belonged to the married women, and nine were illegitimate. Among the 12 are included the three children of the triplet case, and some cases of secondary syphilis. The remainder died of convulsions, or a physical inability to live. We had the curiosity to weigh one of the latter class, which died on the ninth day, and found its weight to be exactly *two pounds three quarters*. I may observe, that several children, born in a weakly state, with marks of secondary syphilis, were cured by small doses of mercury with chalk, steadily administered, and seldom exceeding one grain a day. In many of these cases the mothers had no eruptions on the skin at the time of their confinement, but had previously been affected with primary or secondary syphilis. I have been averse to administer mercury to syphilitic women when pregnant, from the liability to abortion, which I think that I have seen to arise from it.

The case of triplets was a distressing one. The mother, Ellen Cogan, was confined of a miserable puny infant in Cork, upon the evening of May 2nd. She was brought in a car to the workhouse, at seven o'clock of the evening of the next day, with the umbilical cord tied round her leg, and evidently sinking from hemorrhage and exhaustion. Labour pains came on severely about an hour afterwards, the liquor amnii was discharged at one o'clock, A.M., and at two o'clock a second child was born. At half-past three o'clock, A.M., another gush of waters took place, and a third child was born half an hour afterwards. In all of them the head presented. The placenta, one single and another double, were retained, and had to be extracted. The mother, who was obliged to be supported during labour with a large amount of wine, sank a few hours subsequently. The infant born in town died next day. I got a wet nurse for the other two, which were with great difficulty kept alive for three weeks, but they finally succumbed to physical inanition.

One woman was delivered in a field near Ballintemple, walked then two miles to Cork, slept there that night, and walked to the workhouse next day; neither she nor her child suffered any bad effects.

There were but three cases of preternatural labour, one breech and two footlings. One of the footlings presented when I happened to be on the spot, and I was enabled to save its life; the mother was a partially paralytic case; the other cases were still-born, one being the second twin. There was one case of face presentation, the mother was in hard labour for 17 hours, and was delivered, three hours after the waters broke, of a living child, its weight was 11 pounds. We had several cases of protracted labour, one case of uterine polypus, complicated with pelvic distortion, required perforation of the head of the child, the details of which are given by Dr. Gardiner, in the reports of this Society. There was but one case of serious hemorrhage, it occurred after the delivery of the placenta, the patient recovered.

We had four cases of death among the women. One of these was the mother of the three children, who died of exhaustion; one died of cardiac dropsy, and the others of puerperal peritonitis. I shall say a few words upon the latter cases.

In the month of April, of this year, this disease appeared in the case of a woman named Herbert; she had good labour, and until the fifth day showed no sign of illness, but peritonitis then set in with great severity, and, notwithstanding all our efforts, ended fatally the twelfth day after her delivery. A second case, named Donohue, appeared 18 days afterwards, and was treated similarly, by leeching, calomel, and opium, and the other means usually employed, but she also died on the twelfth day. As several cases now presented themselves, I had the bedding at once removed from the wards, and the whole place fumigated with chlorine and whitewashed. There were no more fatal cases; but several others occurred which recovered; two of these seeming to be as alarmingly ill as the cases which turned out fatally. The treatment which I used with these cases was to give them a bolus of three grains each of calomel and camphor, and five of extract of henbane, every night, and a draught in the morning of four to six drachms each of castor oil and spirits of turpentine, with half a drachm of laudanum. This was employed for several days, along with leeching and fomenting the abdomen, and from what I have seen of its use, I place some confidence in it; the mercury in these cases affected the gums, but in the fatal cases which were treated by calomel and opium, it had no effect.

I have, in conclusion, to apologize for many obvious defects in my report, but our registration of cases was not sufficiently complete. This will, I hope, be remedied in the future statistics of our wards, as by the kindness of Dr. McClinton, of the Rutland-square Lying-in Hospital, who supplied me with a copy of the form of registry there used, we

shall endeavour henceforth to follow more closely the laudable example of that institution.

Diphtheria.—DR. W. C. TOWNSEND exhibited pathological specimens of two fatal cases of diphtheria which occurred lately in the Workhouse.

CASE I.—Margaret Manning, aged $2\frac{1}{2}$ years, admitted to hospital December 11th, died next day. This little patient had been ill for a couple of days without attracting much attention from her mother, under whose care she was; when admitted into hospital she was feeble, presenting a typhoid appearance; pulse quick; tongue red, with patches of ash-coloured exudation; tonsils red, and partially covered with same; no cough, but considerable dyspnea, and lividity of countenance.

On examining the throat, the back part of the pharynx presented the same appearance, and from the difficulty of breathing it was evident the disease had advanced into the air tubes; there was not any enlargement of the parotid or submaxillary glands. She was treated, externally, with warm turpentine, freely and frequently applied; internally, quinine, broths, and wine, but she sank within 24 hours after admission.

Post-mortem examination, which was had with great difficulty, showed back of pharynx loaded with ash-coloured exudation, the primary divisions of bronchi filled with exudation of lymph, almost quite detached, and easily separated.

CASE II.—Eliza Collins, aged 2 years, admitted to hospital on the 14th December, with sore throat and cough, feverish, and very irritable; it was almost impossible to examine her throat, and she coughed very frequently, "yet not croupy;" there was some enlargement of the parotid glands, but she was so unmanageable that it was impossible to get a look at her throat or mouth. The only thing that afforded her relief was the frequent exhibition of emetics, which always enabled her to expel a large quantity of mucous, mixed with the peculiar ash-coloured lymph deposit. Externally, warm turpentine was freely applied, and she used a linctus of borax and honey; gray powder, combined with hippo, at intervals of four hours; broths, small quantity of wine and arrow-root. She sank on the 21st, seven days after admission.

Post-mortem Examination.—The tongue, roof of mouth, and tonsils exhibited the peculiar patchy, ash-coloured appearance, but no exudation appeared in the air tubes. It may be remarked, that we had no cases of croup, scarlatina, aphthæ, or measles, in the Workhouse some time before or since this occurrence.

The pathological appearances in this disease seem to be the formation of a false membrane extending partially over the pharynx, tonsils, trachea, larynx, and occasionally into the bronchial tubes. Those parts not covered present a reddish colour, the exudations are partly detached, easy

of removal, leaving a red and raw surface, the tonsils enlarged, occasionally the parotid and submaxillary glands are much swollen.

In some cases the patients are quite amenable to treatment, and yet sink rapidly, in others they are restless and unmanageable, the disease extending into the larynx and air tubes, the breathing becomes very difficult, and the patient dies asphyxiated. I am not aware that any benefit resulted in the cases that came under my treatment from the local application of the nitrate of silver, either solid or in solution, and the same may be said, as far as my experience goes, of the strong acids.

In some cases medication seems to be of no avail; the patients sinking without an effort, as if the local symptoms were merely the outward manifestations of a poisoning of the system. In others, after a struggle of several days, the severe symptoms subside, the disease appears to be slowly eliminated, and the kidneys are invariably more or less affected. I presume the poisonous element makes its way out of the system through those channels. In my experience the convalescence is greatly protracted.

Large Biliary Calculus and Melanosis of the Stomach. DOCTOR GARDINER exhibited the stomach and a portion of the liver of a woman who died in the Cork Union Hospital. The particulars are the following:—

M. H., aged 60, was admitted, about a year ago, into the Workhouse Hospital, under Dr. Popham, complaining of disorder of the stomach. During the period of her continuance in the hospital, she felt, at intervals, severe pain in the epigastrium and right hypochondrium; she was also troubled with flatulence and acidity, and vomiting of a dark grumous matter. Her appetite was always good, so much so, that her comrades used to say that her sickness proceeded from over-eating. During her stay in hospital, until her death, a period of 11 months, she maintained a healthy appearance and condition. Her bowels were generally either confined or relaxed beyond measure, usually the former. She had the marks of old ulcers on her legs; decubitus was on the right side.

Dissection showed a very great thinness of the walls of the stomach, which was still more evident by their great transparency on being held before a light; the mucous membrane was melanotic, a large amount of a greenish-black pigmentary matter being deposited at the pyloric end. This deposit was also in considerable quantity at the cardiac orifice, and at the upper and lower margins, but less thickly dotted at the central parts. No ulceration was found, but the membrane could be scraped off without difficulty. The pancreas appeared larger than natural.

The liver was of a dark crimson colour, its texture easily broken down by the finger. The gall-bladder was enlarged to double the size, and contained a quantity of bright orange bile, thinner than usual. A large

calculus was found loose at the most depending part, it was an inch and a half long, oval, and rather thicker than the thumb, it weighed very nearly half an ounce. The kidneys and bladder were not much altered. Though the urine used to pass off involuntarily, there was no apparent lesion in the walls of the bladder.

Doctor Gardiner noticed the great size of the gall-stone, which was single, the gall-bladder being much dilated, it could move from end to end, but, from its elongated form, could not turn about in it. It consisted of cholesterine.

DR. FRANCIS D. BULLEN exhibited the stomach and portions of the intestines of a patient who had died in the Mercy Hospital, and related the following history of the case :—

Cornelius Sullivan, aged 40, a servant, was admitted to Mercy Hospital, under Dr. O'CONNOR, December 18th, 1861.

History of Case.—The day previous to his admission into hospital, returning in a railway carriage from Bandon, the window being open, and the weather very severe, he felt chilled. Soon afterwards he vomited; and feeling ill, took some brandy (half a glass) but did not feel any better. Next morning applied for relief at hospital; stated he had no previous illness up to the present attack; had always been a temperate man.

Symptoms on Admission.—Surface of body cold and clammy; extremities of a purple colour; countenance congested; appears listless and drowsy, dozing away unless aroused; answers questions readily in a quiet tone; unable to feel any pulsation in the radial or brachial arteries; pupils contracted; tongue moist; heart's action slow and feeble; incessant vomiting after each drink; bowels obstinately confined; no pain on pressure over the abdomen, nor distension; passed urine in small quantities.

Treatment.—Mustard plasters were immediately applied to epigastrium and soles of feet; and he was ordered a pill every second hour—composed of calomel, two grains; powdered opium, half a grain; and aromatic confection, to be followed by an injection of infusion of senna, 16 ounces; castor oil, two ounces; turpentine, one ounce; mixed up with the yolk of an egg. Two hours afterwards the enema came away, bringing scarcely any fecal matter; no change in symptoms; passes urine freely.

December 19th.—This morning symptoms more unfavourable; cold clammy perspirations breaking out over head and forehead; no fecal discharge. To omit pills of calomel and opium, and, instead, take the following:—Extract of aloes, 12 grains; powdered opium, 2 grains; oil of caraway, 6 drops; compound rhubarb pill, 1 scruple; mix, and make 8 pills; take one every second hour.

Eight, P.M.—Much worse this evening; breathing assuming a laboured

and stertorous character; replies to questions in an abstracted manner. Died 12½, A.M.

Post-mortem appearances.—Heart large and flabby, an undue proportion of fat; liver nutmeg character, and enlarged; spleen apparently healthy; stomach inflamed and rather contracted, mucous membrane very much inflamed, being swollen and in red patches, particularly towards pyloric end, where there was a large ulcerated patch, the mucous membrane being quite eroded. The intestines showed an amount of intense inflammation, particularly the first portion of the duodenum; the small intestines were highly inflamed, and slightly ulcerated, covered over with a mucopurulent exudation, many patches being of a vermillion colour, other parts of a chocolate colour. Kidneys enlarged and pale; right lung adherent to pleura, congested at apex.

General Remarks.—This case is interesting on account of the absence of most of the symptoms of irritant poisoning during life, and the anomalous *post-mortem* appearances, which certainly indicated the existence of one of the corrosive irritants, which could not be detected in the stomach or its contents after a careful analysis by Dr. Blyth and myself. We could not find any traces of arsenic, and only a slight trace of the presence of mercury, which was accounted for by the administration of calomel on admission to hospital. Dr. Blyth then tested for oxalic acid and potash, but could not obtain any trace; the contents of the stomach were extremely alkaline, but the corroded state of the mucous membrane, and the general appearances, justified the suspicion of oxalic acid having been administered, yet there was no trace of its existence. On inquiry afterwards, I was informed that on the 17th of December, the day previous to his admission to hospital he had taken what he thought was a dose of epsom salts in a cup of hot tea. Very shortly afterwards he vomited, and complained of a burning pain; he then took a pint of bitter ale, which he immediately discharged. The women who saw him state that it was something like coffee grounds that he vomited. He was in service as butler, where he had to clean top boots, and to use oxalic acid frequently, which confirms me in the opinion that he made a mistake, and took some oxalic acid for epsom salts.

JANUARY 8th, 1862.

DOCTOR POPHAM, President, in the Chair.

Encysted Dropsy of the Kidney; Obliteration of the Ureter; Scleroma.—DR. POPHAM exhibited a specimen of diseased kidney taken from a newborn female infant, who died with induration of the areolar tissue, in the Cork Union Workhouse. The particulars were the following:—

The mother of the infant, Mary Lenehan, was a healthy looking woman, and came to her full time. While the child was being delivered,

the midwife found some difficulty in extracting the abdomen in consequence of its large size; she drew his attention to the case shortly afterwards. The infant was of the average bulk, of a reddish-yellow or somewhat icteric colour, and, in all respects, good looking. A few hours after birth, the integuments of the lower extremities began to swell and grow rigid, seemingly to the diminution of the abdominal fulness, the temperature of the limbs sinking below par. The induration gradually extended upwards to the abdomen and thorax, enveloping and pressing on the throat, and thence proceeded to the upper extremities, but the areolar tissue of the latter did not present the same degree of unyielding hardness which that of the lower exhibited. The infant sucked a little on the first day, but refused to do so afterwards, so that the breast milk was put into its mouth with a spoon. It had constant vomiting but no diarrhea, it uttered also incessantly a faint whining cry, and gradually pined away, dying on the fourth day of coma and convulsions. The cloths, which were constantly wet, showed that the urinary secretion was not arrested.

On opening the abdomen, a tumour in the right lumbar region came into view, closely adherent to the intestines, which it pushed over to the left side. The tumour was tense and shining, and almost as large as a goose egg. While dissecting off the lateral adhesions, it was accidentally punctured, and about three ounces of a pale fluid, possessing all the characters of urine, passed off. Upon removing the parts, the bladder was found contracted and empty; the left kidney was perfect, but the right ureter, which at its union with the bladder was pervious, became almost immediately impervious, and was lost in the tumour. The cyst on being opened was found partly to consist of a dense wall, having a structure closely resembling arterial, and divisible into layers, and partly of the altered kidney. The latter was expanded into one large cavity freely communicating with the outer cyst. The tissue of the kidney seemed broken up, and the renal vessels were sought for in vain.

On examining the areolar tissue of the lower limbs, it was found hard and resisting. The deficiency of moisture in it was remarkable, and the fat hard and granular as if congealed by cold.

The lungs were in parts very imperfectly aërated; some portions of them red and condensed, sinking to the bottom when placed in water. The liver was healthy; nothing else was remarkable.

Dr. Popham observed that the defects of conformation in the specimen presented to the Society, resembled, in many features, the morbid appearances described in the 53rd case recorded by Billard, in his *Traité des Maladies des Enfants Nouveau-nés*, from which that author concludes that it is highly probable that the excretions of the fetus are thrown out before birth into the waters of the amnion. In cases like the present, for example, the distention of the abdomen existed at birth, thus testifying

that the fluid in the cyst was of ante-natal formation, and would have passed off but for the obliterated ureter. It remained pent up in the tumour, dilating and compressing the pelvis of the kidney.

Dr. Popham also observed, that not being able to determine whether the areolar induration of the extremities, which co-existed in the case, was or was not connected with the vice of conformation in the kidney, he preferred merely to notice the fact. By those writers who do not regard scleroma as a mere cutaneous phlogosis, but as a consequence of some visceral disease, the alterations of the urinary organs are not among those usually assigned. The infant above-mentioned was of legitimate birth, and thus does not come under the cause which was suggested by Professor Pastorella for the constant prevalence of scleroma in foundlings, namely, "the attempts employed by the mothers during pregnancy to conceal their state, or to destroy the fruit of their illicit amours."

Purpura.—DR. CUMMINS read the following case:—

On the 24th of last January a gentleman called on me, stating, that for more than 12 months past he had been the subject of disease of the shoulder, and that although he had tried many remedies, and had been under the constant care of a most eminent medical man, nothing had prevented its gradual increase.

On examination, I found the entire scapular region and surrounding parts the seat of numerous burrowing ulcers, discharging a thin unhealthy matter; the intervening sound portions of skin covering an almost scirrhous condition of the cellular tissue.

The arm, as far as the insertion of the deltoid muscle, was much in the same condition, except that the hardness was not nearly so great. General health seemed pretty good; and he was able to discharge his duties, and go about without suffering more than local uneasiness, which was discomfort rather than pain.

I directed him to continue the use of cod liver oil, which he had been taking for some time, and to take a Turkish bath three times a week, while, as local treatment, I applied nitrate of silver freely, and dressed with dry lint; for this, after a time, I substituted the iodide of potassium ointment and the tincture of iodine.

This treatment acted like a charm; the hardness rapidly disappeared; the ulcers granulated kindly, and healed; and in three or four months he was almost quite convalescent. He had gained weight while taking the bath, until April 23, when the report was, that weight was stationary; and it is a significant fact that the day before this he had had epistaxis.

I now desired him to intermit the use of the bath for a week; but soon regretted having done so, as two or three of the cicatrized ulcers opened afresh, and burrowed deeply. He then returned to its use three times a week, as before.

On the 22nd of May the shoulder appeared much better; and he states that the bath increases his appetite very much, but that he has lost seven pounds in weight.

June 10.—Has taken the bath only once or twice a week since; and after the last one a number of brownish-red spots, slightly elevated above the surface, from the size of a fleabite to that of a sixpence, appeared on the legs.

June 15.—Has not taken a bath since; but the spots are now thickly scattered over the lower limbs, from the hips downward, and present all the characters of purpura simplex. There are also some large patches of ecchymosis, and there is considerable œdema. He complains of great debility.

I ordered him quinine with sulphuric acid, purgatives, and a vegetable diet. He informs me that for a long time past he has taken neither green vegetables nor potatoes.

On the 17th he was so much better as to be able to return to business; but had to come home early in a car, suffering from great exhaustion; indeed when I saw him he was almost in a fainting state. After a glass of wine the skin became hot and dry, pulse 100, spots well out, but rather tending to fade. I ordered him to take the draught which Dr. Neligan so highly recommends for purpura, viz.:—Turpentine, an ounce; mucilage, one ounce; peppermint water, one ounce and a-half.

18th.—The draught operated largely on the bowels, and caused a darting pain from the thigh along genitals, after each micturition, and the passage, of what he described as “little red strings,” with the urine. Pulse 76, tongue nearly clean, and spots fading rapidly.

On the 20th, the spots having again increased, with much œdema and ecchymosis, I ordered him 30 drops of tincture of larch, three times a day; and on the 23rd I increased the dose to 40 drops.

This medicine caused most copious diuresis, the spots rapidly faded, the strength improved, and on the 26th the report was, that on rising in the morning they were entirely absent, and that he was feeling perfectly well. After walking about for a time, however, the right leg became swollen and painful, and the spots reappeared on it, but not on the other.

On the 28th he states that the tincture continues to act powerfully on the kidneys, and that there is an occasional dart of pain along the penis, and towards the loins; the lower limbs are now almost of the natural colour, and free from swelling. I ordered him to continue the tincture, and to take five drops of Fowler's Solution of Arsenic after each meal.

On the 1st of July it was reported that the spots had completely and permanently disappeared, and that the general health was excellent. On the 4th I reduced the dose of the tincture to 20 drops; and on the 10th omitted it entirely, as its diuretic effect was so great that he feared his strength would all “turn into water.” There was no return of the disease

after this; but the shoulder, the original source of his sufferings, had become considerably worse, and was at least in as bad a condition as when I first saw him. For it I now tried a variety of local and general treatment without success; and at last, on the 2nd of August, with some misgivings, I desired him to take a bath once a week; while, at the same time, he was to continue the use of small doses of Donovan's solution for a time. The report of the 20th of October states that almost all the ulcers are healed up, and that the subcutaneous hardness has, in a great measure, disappeared, without the least return of purpura or injury to the general health.

This gentleman still continues the bath once a week; it agrees well with him; and although the shoulder is not quite well, yet when I saw it last, it was very nearly so, and was progressing rapidly in the right direction.

I have not brought this case before the Society because it presents any new features in the pathology or symptomatology of a well known disease, but because it illustrates the success of a comparatively new medicine in a disease for which, as far as I am aware, it has not hitherto been used. I was led to employ the larch tincture in this case because medicines of its class are all well known to possess astringent properties, and also because I have found it very useful in hemoptosis. I never before used it in such large doses, and so was unaware how powerfully it acts on the kidneys. *Indeed I have never used, nor seen used, so active a diuretic.*

I suppose, since the discoveries of the circulation of the blood and vaccination, there has never been an addition to medical science so much abused as the Turkish bath. I have been for the last three years in the constant habit of prescribing it, and have probably used it at least 20 times as often as any other regular practitioner in this city, so that it has often been a marvel to me that while so many have heard or seen death or disease follow in the train of the bath, I never saw the smallest untoward circumstance arise from its use except this case of purpura. I determined to publish it on account of its very novelty; and it was almost a disappointment to me when, on being obliged to send the gentleman again into the bath, the disease did not return, thus breaking a link in the chain of sequence, and driving us back to the exclusion of a vegetable diet (which, however authors may differ on the subject, I believe to be an efficient cause of purpura) as at least the main cause.

I have seen fearful convulsions follow the use of an ordinary warm bath at 96°; but I never saw anything of the kind follow the Turkish bath. Still it is impossible not to feel that the responsibility of sending a patient into this most useful bath is greater than of prescribing any other means, however dangerous, as any illness that may arise from epidemic influence, accidents, or other cause, even months after the bath has been given up, or sudden death at any indefinite period, however

remote, is sure to be attributed to it, and thus many are deprived of a most powerful adjunct to medical treatment.

The remedy for this is in the hands of the profession. Let each case of alleged injury sustained by it be discussed in scientific meetings, and then the public will be sure to make the same considerate allowances for the difficulties of our position, which are so often extended to the non-success of our ordinary treatment. There is one practical point which the case I have read illustrates, bearing upon the question at issue, viz., that when a patient is using the bath habitually he ought to be weighed frequently, and any sudden loss of weight ought to lead to a suspension of the treatment. The gentleman whose case I have read suddenly lost seven pounds, and this loss was evidently the advent of the attack of purpura.

FEBRUARY 12TH, 1862.

DR. POPHAM, President, in the Chair.

Abscess of the Corpus Rhomboideum of the Cerebellum; Muscular Rigidity.—DR. POPHAM presented a specimen of abscess of the cerebellum involving the rhomboid body, which was taken from a woman named Brodie, aged 70, who died, Feb. 4th, in the Cork Workhouse. She had been a lunatic for a number of years; but about eight months before her death she became violent, and had to be transferred to the asylum, from whence she was returned, last November, to the workhouse as incurable. When readmitted she was totally helpless. Both the lower extremities were rigid and extended, the sensation in them being much impaired; the left hand was powerless; several ulcers of a scrofulous character existed on the neck, between the shoulders, and in the right axilla; the bowels were always confined, the urine was passed involuntarily; she had considerable fever; her pulse was excited, and skin hot; and she was constantly engaged in directing attention to her forehead as the seat of pain, and striking it: while in the asylum, she refused at first, for several weeks, to go to bed; and, from the period of her return to the workhouse till her death, she slept very little, babbling and shouting unceasingly, both night and day. When she was asked a question, she answered with tolerable correctness a few words, but quickly relapsed into incoherency—the association of her ideas being very defective. Like many lunatics, however, she had a few constant topics—such as her former place of residence, and the imaginary escape of her money through her elbows—a circumstance usually better understood in the figurative than the literal sense. She never had epileptic fits. Her death was easy, and without coma.

On examination, after death, the brain was firm and hard, and its bulk so small that Dr. Popham was curious to have it weighed—which was done in his presence by Dr. Gardiner. It weighed exactly 36 ounces.

The internal structure of the cerebrum, more especially the medullary part, was found to be of more than ordinary consistence. The cerebellum seemed very vascular; on cutting it the rhomboid body was found softened, and purulent matter was plainly perceptible.

In commenting upon the case, Dr. Popham pointed out some symptoms which seemed to have more than a casual connexion with the necroscopic appearances. Among these was the constant *wakefulness*. Should we attribute, he asked, the want of sleep to the structural lesion? Has the cerebellum any agency in maintaining, vicariously, the involuntary actions of the system during the sleep of the brain proper? If so, lesions interrupting its operative functions ought to react upon the cerebrum, and disturb the natural succession from action to rest.

Again, another symptom was the *rigidity* of the muscular system. Spasmodic extension seems to occur in this disease rather than paralysis. In the present case it appeared to have been the sequel of previous restlessness and excitement. Now, physiological experiments have proved the wonderful influence of the cerebellum in coördinating the actions of the muscles, by showing the vagueness of purpose with which the muscular movements are carried on when this organ is removed. Dr. Popham mentioned an interesting example, bearing some resemblance to the above, in the nineteenth case cited by Dr. Bright in the second volume of his *Clinical Reports on Diseases of the Brain*. In that case there was also an unhealthy state of the rhomboid body. It occurred in a child who died of hydrocephalus, and in whom there was a similar degradation of the part above-mentioned, and a similar diminution of size in the brain, with increased firmness in the medullary part, so that the knife almost gave the sensation of cutting through soft cartilage. In Bright's case the chief symptoms were rigid and extended limbs, great restlessness, constipated bowels, and imbecility of mind. Dr. Bright further noticed that corresponding effects were produced in another case, where the cerebellum was not diseased, but unduly compressed. Dr. Popham also remarked, that in a case of acute abscess of the cerebellum, recorded by Dr. Gordon in the fifteenth volume of the *Dublin Quarterly Journal of Medicine*, muscular rigidity was a prominent symptom.

Albuminuria; Hypertrophy of the Kidneys; Nutmeg Liver; Hemopericarditis.—DR. FINN exhibited pathological specimens of the above, and detailed the following case:—

Henry Whitston, aged 22, a tailor, was admitted into the North Infirmary, on the 8th January, 1862, labouring under anasarca of face and upper extremities. He stated that he had been under treatment for a similar attack about 16 months previously, in St. Mary's Hospital (London), and that he was discharged, much improved in health, and, as

he supposed, cured. His habits have been extremely intemperate; and soon after leaving hospital he indulged, to excess, in the use of ardent spirits—gin being his favourite beverage.

Symptoms.—On the occasion of his admission to the infirmary—dull pain in lower part of back; pulse 76; skin dry; thirst and costiveness; urine highly albuminous; resonance of chest normal; muco-crepitating rales heard anteriorly and posteriorly. January 18.—Suffered much from irritability of stomach, having immediately rejected everything swallowed. On this occasion he also complained of pain referred to the precordial region, which, on the application of the stethoscope, revealed the physical signs of pericarditis in their most exaggerated form. January 20.—Difficulty of micturition. January 22.—Scarcely any urine has been secreted for the last 24 hours; headache. January 26.—Symptoms as before; a very loud friction sound still heard over region of heart, and a feeble murmur at the apex. January 30.—Kidneys have ceased to secrete; very decided aggravation of all the symptoms; breathing laboured; pulse scarcely perceptible. Death took place at 6 P.M., after an attack of convulsions.

Autopsy.—Lungs congested; pericardium contained a very large quantity of fluid, in which blood preponderated to such an extent as to suggest the probability that it was derived from an aneurism in proximity. This, however, was not the case. The two surfaces were closely adherent at some points, and at others the uniting medium consisted of bridges of lymph, easily broken up. The heart was hypertrophied to a moderate extent. Some decolourised fibrin extended from the right ventricle into the pulmonary artery. The pulmonary and aortic valves were both healthy. The mitral valves, to which some fibrin was adherent, were thickened and congested to an extreme degree. The kidneys were much congested, and very firm in their texture, the right and left weighing respectively 10 ounces 2 drachms, and 12 ounces. The liver offered a well marked example of nutmeg discolouration of this organ.

Remarks.—In reference to this case a question suggests itself whether there existed any relation between the hypertrophy of the kidneys and the suppression of urine adverted to? In several cases of renal hypertrophy, in connexion with albuminuria, the writer has observed suppression of this secretion; whilst, on the other hand, he has frequently noticed that the secretion coexisted in normal quantity with an atrophied condition of those organs; yet, in the latter circumstances, an arrest of the secretion may, with more reason, be anticipated, the area of the secreting surface being necessarily more circumscribed. The pathological import of such cases would appear to be that the amount of secretion is inversely as the volume of the kidneys.

CITY AND COUNTY OF LONDONDERRY INFIRMARY AND
FEVER HOSPITAL.

REPORT FOR 1861.

With some Remarks by T. H. BABINGTON, M.D., Surgeon to the Infirmary.

SOME of the cases enumerated in the following abstract were of sufficient interest to demand being further noticed, and, for convenience sake, may be taken in the order in which they are placed.

Return of Patients Admitted into and Treated in the City and County of Londonderry Infirmary during the Year ending 31st December, 1861.

Remaining 1st January, 1861,	65
Admitted to 31st December, 1861,	590—Total, 655
Discharged Cured and Relieved,	545
Incurable,	4
Irregular,	4
Died,	31—Total, 584
Remaining 1st January, 1862,	71
Extern Patients attended during the year,	729

City of Londonderry Fever Hospital.

Remaining 1st January, 1861,	1
Admitted to 31st December, 1861,	40—Total, 41
Discharged Cured,	31
Died,	4—Total, 35
Remaining 1st January, 1862,	6

Numerical Abstract of Cases of Diseases and Accidents and Deaths for the Year 1861.

ACCIDENTS.	No.	Died.		No.	Died.
Burns and Scalds,	11	2	Anthrax,	6	
Dislocations of—			Cancer,	15	
Ankle,	2		Diabetes,	2	
Fingers,	2		Dropsy,	8	2
Fibula,	1		Erysipelas,	2	1
Shoulder,	2		Fever,	40	4
Fractures of—			Hernia,	4	
Arm,	8		Hydrocele,	2	
Clavicle,	1		Diseases of—		
Fingers,	12		Brain, &c.,	22	2
Jaw and Nose,	1		Bones and Joints,	18	
Leg and Thigh,	7		Heart and Lungs,	108	16
Patella,	1		Stomach, Liver, Bowels,	70	4
Pelvis,	2	1	Eyes,	23	
Ribs,	5		Skin, Tumours, Ulcers,	69	
Injuries of—			Kidneys, Bladder, &c.,	13	1
Head,	8		Uterus, &c.,	6	
Spine,	1	1	Rheumatism,	47	
Eyes,	4		Scrofula,	15	
Wounds and Contusions,	45		Whitlow,	8	
Abscesses,	14	1	Venereal Diseases,	23	
Aneurism,	2	1			

Abstract of Cases continued.

OPERATIONS.	No.	OPERATIONS	No.
Amputations of Arm,	4	Removal of Cancerous Lip,	1
Amputation of—		Minor Operations,	40
Fingers,	10		
Breast,	1		
Toes,	1		
<hr/>			
Total number of Days passed by Patients in Hospital,	21,146		
Total number of Days passed by Fever Patients in Hospital,	913—22,059		
Average number of Days passed by each Patient in Hospital,	35		
Number of Beds,		48 Male.	
Ditto,		24 Female.	
		<hr/>	
	Total,	72	
Average number of Beds occupied Daily,		58	
<hr/>			
		£	s. d.
Average Cost of Hospital and Fever Patients, including all expenses,		2	4 7½
Average Cost of Hospital and Fever Patients, exclusive of Salaries,			
Wages, Annuities, amounting to £493 14s. 3d.,		1	10 5½
Daily Cost of each Patient, including all expenses,		0	1 4¾
Daily Cost of each Patient, exclusive of Salaries, Wages, Annuities,			
amounting to £493 14s. 3d.,		0	0 11½

The burns and scalds were all cases of considerable severity.

The first of the fatal cases was caused by the patient falling into a vat of boiling potale, in a distillery. He was scalded from the pelvis to the toes, and died 36 hours after the receipt of the injury, never having rallied from the shock.

The second fatal case occurred in consequence of burns inflicted by the sufferer's being for some minutes buried (almost) in the walls of a burning steam mill, where he was actively engaged in assisting to extinguish the fire. His back, abdomen, legs, and arms were very extensively superficially burned. The accident occurred about 12 o'clock noon, and he died at eight next morning. He never rallied from the shock to his nervous system; had excessive vomiting; and complained of intense thirst, and a feeling of intense cold.

In another of the cases—by no means an extensive burn of the foot—when almost healed, and four weeks from receipt of the injury, very marked and acute tetanic symptoms presented themselves, but yielded to the free exhibition of liq. opii sedativ (Batley's) and tinct. cannabis Indica, in half drachm doses of each, every third hour.

The dislocation of the fibula at its head, an accident of rare occurrence (Sir A. Cooper mentions only one case from direct violence, and connected with compound fracture of the tibia), was the result of a piece of iron heavily striking against the leg. No other injury was sustained. The nature of the injury was easily ascertained. The head of the bone was restored to its place, and retained in its position by compresses of lint,

supported by small gutta percha splints, and the whole limb placed on McIntire's splint, with the foot elevated. The patient was discharged in two months, with a perfectly useful limb.

The fracture of the upper jaw and nose was the result of direct violence from a blow of a heavy piece of iron. Strong ropes which held this in its place gave way, and it fell with much force against the man's face, and smashed in the antrum and side of the nose, and inflicted a severe wound, besides fracturing the bones, and driving them down almost through the roof of the mouth. The man recovered, without a bad symptom, with very little deformity, and the nasal duct escaped.

Cases of fracture of the pelvis are of rather unusual occurrence. In one of the cases the fracture appeared to run through the acetabulum and ilium. The man fell from a loose stone wall, and rolled over among the falling stones. He made a good recovery.

The fatal case was caused by a cask of porter rolling against and over the man. He lived not three hours after the accident. On *post mortem* examination the cavity of the pelvis was full of blood, the bones of the pelvis, ilium, ischia, and pubes fractured extensively; and the iliac arteries both wounded, and opened by some of the fractured spiculæ.

The fatal case of aneurism occurred in a man aged 30. He had all the symptoms of acute laryngitis; and one night suffocation seemed so imminent, that we apprehended the necessity of operative interference. The symptoms, however, yielded to the remedies resorted to—as leeching, blistering, calomel and opium—and we had pronounced the patient as convalescent. Soon after, the house surgeon was summoned to his bedside; the patient had felt weak, asked for a drink; a copious flow of arterial blood issued from his mouth, and in a few moments he was dead. His friends immediately removed the body, and we were refused an examination. No doubt here we had an aneurismal tumour pressing on the larynx. This was the first illness the patient had ever suffered from.

Amongst the venereal diseases were four very bad cases of phagedæna of the penis. They were treated by the local application of nitric acid, followed by nitric acid lotion and extract of conium, and the free exhibition of opium internally; when the pain was very urgent, a grain every third hour. This treatment was in each case successful.

Cases in Midwifery. By DILLON KELLY, Medical Officer Milltown Parochial Dispensary.

Puerperal Convulsions successfully treated without Venesection.—Anne C., a primipara, aged 23, of full habit, and stout make, the subject, about two years since, of an attack of melancholia, for which she was successfully

treated in the asylum here, and produced by the heartlessness of a young man she was much attached to, and to whom she was on the eve of being married, suddenly breaking off the match in consequence of some disagreement about her fortune.

Obtaining a new beau, she got married about eight months since, but without the knowledge of her father, a small farmer in comfortable circumstances.

Her husband not having a house of his own, and living with his father, took lodgings for her in town, but not receiving her fortune, for which only he married her, he was not so attentive to her as he should be, whilst her own family, now that she was disposed of, and wishing to drive a hard bargain, seemed equally determined to forget her.

Under these circumstances great anxiety and depression of mind were the results, which was coupled with a poorer diet than she was accustomed to, and it is not to be wondered at that a sudden shock was productive of puerperal convulsions in the seventh month of utero-gestation.

As they lodged in Meeting-house-lane, just at the back of my residence, I saw her during the first attack, which occurred at 10 A.M.

On the cessation of the fit I made an examination, and found the os uteri dilated to the size of a crown, but its anterior lip more especially hard and rigid as whipcord, and the urine 1020 and albuminous.

To induce relaxation I at once gave four grains of tartar emetic, and half a grain every half hour afterwards to keep up nausea, and, as a matter of precaution, had her hair, which was long and most abundant removed.

At one, the os was soft and dilatable; at three, it was fully dilated and the head descending steadily; and at half-past three, she was naturally delivered of a living infant, but, as already said, at least six weeks prematurely.

Her bowels being confined, I then gave her five grains of calomel, and at eight P.M., three drops of croton oil, as she had three fits since her confinement, but each evidently shorter and less severe than the preceding one.

Second day.—Bowels freely opened during the night: the nurse said they had been very much neglected; had two fits during that period, urine still albuminous.

Every cause, therefore, likely to be productive of pressure on the vessels of the kidneys being removed, the restoration of the healthy urinary secretion was the next step to be attended to, and with this view I gave 10 grains of tartaric acid, freely diluted, every second hour.

On the third day the fits had totally disappeared, but mania of a mild type, and evidently puerperal, had developed itself instead. I could, however, obtain none of her urine as she passed it under her, and besides obstinately shut her mouth against her medicine.

On the sixth day the mania also had disappeared, and, with the exception of a peculiar cast of countenance, and at times a disinclination to answer questions, she was much better than could possibly be expected, or even hoped for under such discouraging circumstances.

Suffice it to say, she was perfectly convalescent on the tenth day, and that her infant died on the seventh, whose aged looking and wrinkled face, and dry, glazed, copper-coloured, and psoriatic appearance of skin on the legs, arms, and backs of the hands reminding forcibly of infantile syphilis, but too clearly indicated blood contamination.

Case of Vesico-Vaginal Fistula.—A primipara, aged 37, who had married late in life, and arrived at her full period, was seized with labour pains, on Thursday, the 25th May, 1860, at 10 A.M.; at four the following morning the membranes gave way, their rupture being followed by a scanty discharge, after which her pains increased in severity, but with long intervals; between eight and nine the intervals became shorter, and about noon I saw her.

She was most restless and uneasy, in truth a very bad patient; appearance, anxious; pulse, quick; the parts dry and tumid; os, high, thick, hard, rigid, and dilated to about the diameter of two inches and a-half; head, which was very firmly ossified, just perceptibly advancing; pains frequent and much complained of; bowels had been well freed by medicine in the morning, and she passed water freely up to about an hour before my visit, late in the day.

Anticipating from these appearances, something unpleasant, I hesitated in having recourse to tartar emetic, and gave ten drops of laudanum, at once, with 40 drops for bed time, desiring them to send for me in the morning, if she was not well, when I determined, should the state of the os admit of it, to have delivered her with the forceps.

About noon, next day, she was naturally delivered of a dead fetus, and when I saw her on the following Monday, sloughing of the vagina was setting in, finally terminating in vesico-vaginal fistula, which fearful sequela, the lucky midwife obtained the whole credit of inflicting, and of which, it is needless to say, she was as innocent as the Chairman of the Board of Guardians.

Most fortunate, therefore, was it for my reputation, both local and general, that they did not send for me, else I should have been added to that black phalanx of "dispensary doctors" who use the forceps too recklessly.

For the first six weeks her sufferings were the most excruciating, the cry being never out of her mouth, unless when under the influence of an opiate; and the clitoris, which one would suppose should have been outside the area of pressure, having also suffered, was a source of torturing agony to her, whenever the urine came in contact with it.

It presented the appearance of an irritable fungoid looking mass

of erectile tissue, similar, if such was possible, to a loose fasciculus of fungoid conical papillæ, in a state of granulation, each papillæ, or granule, perfectly isolated, and surrounded by a minute ring of sloughy looking fibrous membrane, and some of them taller or longer than their fellows.

In the middle of June, cicatrization had become decidedly established in the vagina, and, as it progressed, it was but too evident that it was unmistakeably contracting that canal, the contraction being produced by two or three distinct well defined bands, analogous to the cicatrices of a burn.

In July the contraction was steadily on the increase, and in the latter end of that month, had apparently attained its acme, the diameter of the vagina at its sphincter being then not more than one inch, whilst its uterine extremity, or upper two-thirds, was apparently quite normal.

Having repeatedly attempted to ascertain the size and site of the fistula, but unsuccessfully, I looked on that peculiar disposition of the parts as most favourable, and had come to the conclusion, that a vulcanized india rubber hollow instrument, of a dumb bell form, with a perforated head, like the nose of a watering pot, a neck just the length of the cicatrix, to keep it steady in its place, and an inferior reservoir and stop cock, would at the worst make her so far comfortable, that her life would not be a constant burden to her.

That idea, however, was not carried out, for, fortunately, I brought influence to bear on her; she consented to go to town, got under the care of Dr. M^cClintock, who most successfully operated on her, and she is now as well and happy as she ever was before the unfortunate occurrence.

The treatment was hence cleanliness, matico injections, and opium, of which latter drug she took, after the first few days, eight grains in the four and twenty hours, four in the morning and four in the evening.

Weak solution of chloride of lime, was, in the first instance, had recourse to, but she was so irritable that it could not be borne; then the liquor plumbid iacit. dilut., which was also productive of much suffering, so that in the end I was compelled to have recourse to matico, which was the only lotion she could bear, and which certainly was, in her case, most beneficial. Yet it is an interesting and important question for discussion, whether or not the matico had anything to do with the contraction, for if so, it would be a highly objectionable application in similar cases.

On Paralysis; a Lecture. By O. BANG. Translated from the *Bibliothek für Læger* for July, 1861, by WILLIAM DANIEL MOORE, M.D., T.C.D., M.R.I.A., Honorary Member of the Swedish Society of Physicians, and of the Norwegian Medical Society; Corresponding Member of the Royal Medical Society of Copenhagen.

THE disease I am about to speak of requires not merely such casual remarks and cursory observations as might suffice in our ordinary therapeutic conversations; neither does it belong to the many new affections which the present century has unfortunately added to our nosology; it is as old as our science; but the accurate investigations of late years have added so much to our knowledge of the subject, that a more detailed description is rendered necessary. It is requisite, however, to bear in mind that this must be adapted to the time which, in a therapeutic course, can be devoted to a single disease; and an excellent English physician remarks, that "to clinical students there is no greater impediment to knowledge than over-teaching." I shall lay before you as much respecting the diagnosis and treatment of paralysis as you will at first require for your practical course.

Paralysis is an abolition, in a greater or less degree, of vital manifestation in the organs of sense or motion; ordinary impressions are feebly or not at all perceived; sometimes even unusual impressions produce no effect. It may occur suddenly or gradually, with or without premonitory symptoms; it may be more or less extensive, complete or incomplete, simple or double, when both perception and motion are wanting.

If we suppose the nervous power, like electro-magnetism, to be developed in an induction apparatus placed in the greater or lesser central organs of the nervous system, we may arrange the causes of paralysis accordingly. By continued use, without corresponding renovation, the nerve-force is worn out—idiopathic paralysis; if the circulating medium—the blood, or the vehicle—the nerve-mass, have not the necessary properties, development will take place improperly, or not at all—sympathetic paralysis; if the telegraph wires—the nerves, are not in order, it avails not that the offices—the organs of sense and the muscles, are faultless, just as it is useless that the former be in their normal condition if the latter be not so.

Divided according to its causes, paralysis therefore becomes:—

Idiopathic—arising from a consumption of the powers themselves, by active and passive over exertion corresponding to their renovation neither in time nor extent, both in the animal and vegetative sphere; perhaps also from cold.

Symptomatic—produced partly by blood-poisoning, ponderable and imponderable, partly by mechanical and organic defects in the centres,

periphery, or adjoining parts acting directly thereupon, of the nervous system.

To the foregoing we may add the *sympathetic*, a reflex paralysis from disease in other organs, especially the abdomen.

Like all diseases, this is affected also by age and sex; hereditary predisposition comes, perhaps, more rarely under consideration.

So far preliminarily respecting the causes, the more accurate investigation of which I shall defer until I speak of diagnosis.

Paralysis is a general term for the disease, which receives a different name according to its seat in the organs of perception or motion.

Paralysis of Perception is also named differently, accordingly as the inner or outer senses are affected: light, hearing, smell, taste, and touch. I shall pass over all the others, and dwell upon the last or more universal, which manifests itself under two forms, and is recognised when a pin can be thrust into the skin without the patient being aware of it.

When the outer or inner surface of the body does not perceive what comes in contact with it, it labours under anesthesia; neither form, consistence, nor temperature is distinguished; the internal cavities and canals do not perceive that they are filled, consequently the bladder, for example, the rectum, the stomach, do not contract, just as the voluntary muscles are not sensible to the orders transmitted to them, and the genital system is in vain acted on by the ordinary impressions—in other words, anaphrodisia exists.

From anesthesia we must distinguish the want of perception of pain, analgesia, which is most frequently combined with the former, but may exist alone. I have myself, while under the influence of chloroform, felt the knife, but not the pain which its deep incision would otherwise have produced. I have frequently heard the same from others, where lamentation, of which the patient was unconscious, seemed to prove the opposite. Like anesthesia, it may be universal or local, depending on a central or on a peripheric lesion; it may be combined with spontaneous pain, and may or may not coexist with paralysis of motion.

Fallacious perception of the temperature of objects; for example, that what is warm feels cold, or *vice versa*, belongs, like other hallucinations of the senses, to the dysesthesiæ, which I shall not here notice.

Paralysis in the muscles alone is often called paralysis or paresis, while the more distinctive term, acinesia, as opposed to anesthesia, would be more appropriate. In this form the muscles, whether voluntary or involuntary, do not fulfil their function; yet, how far this may or may not depend upon anesthesia it is difficult to decide. The voluntary muscles do not obey the will, but are capable of reflex contractions, as results of other impressions on the skin, of galvanism or of certain poisons; or they may be relaxed, when they ought to be contracted—for example, in fright. Where it does not occur suddenly, the premoni-

tory symptoms are those of a central or peripheric lesion, which often continue after the paralysis manifests itself. These are: perceptions—as of weight, drowsiness, formication; more rarely, there is even violent pain; involuntary oscillations and tremors are observed, which, in a particular species of the disease, especially when the patient attempts to move the muscles, amounts to violent spasms—paralysis agitans. Flaccidity and atrophy of the muscles may sometimes both be felt and seen, as well as a change of form where individual muscles suffer, and various deformities of the body and limbs, produced by the antagonistic contractions; the temperature is often diminished, sometimes the areolar tissue is infiltrated.

The symptoms are in other respects very different, according to the seat of their cause; namely, whether this be situated in the centre or the periphery of the nervous system, or in the muscles, whose contractility may, for a time, be lost in consequence of over exertion, pressure, or injury, or too constantly in atrophy, in heterotrophia adiposa, or helminthiasis—trichinia. Hence a division, not unimportant, with reference to prognosis and treatment, into nervous and muscular paralysis, which a recent author terms myopathy.

As new means of confirming diagnosis are daily discovered, modern observation has recently applied an old remedy for this purpose. Electricity has been converted by the French writer, Duchenne, into a neuroscope or myoscope; thereby we may decide how far contractility still exists in a muscle. It is difficult to determine whether an internal want of action depends upon paralysis, or how far a deformity is the result of the same, nor is it easy to detect the dissimulation, especially of analgesia, which malingerers seem to be by practice capable of carrying on, and it is often difficult to discriminate the several varieties of the affection so as to found a rational method of treatment thereupon. This I shall now proceed to examine more minutely.

The general *idiopathic* paralysis, where neither the knife of the anatomist, nor chemical, nor microscopic examination, nor a strict investigation of the history and symptoms of the case, are capable of revealing any material cause, leaving us to the inference that the lesion is rather of a dynamic nature, is recognised by—

(a) The *causes*, namely, everything which exhausts the strength without corresponding compensation, whether direct over-exertion of mind or body, in a healthy or morbid state, fevers, spasms, pain; external violence, cerebral disturbances, intense cold, lightning, animal magnetism [!]; mediately the paralysis may proceed from evacuations in the vegetative system, especially of blood or semen. To this category should also be referred the, perhaps, symptomatic paralysis which occurs in hysteria. Other forms of paralysis, too, belong to this class, which, however, I believe deserve a place rather among the symptomatic varieties,

as the result of blood-poisoning, many of them leaving not a trace after death.

(b) The *symptoms*, which have scarcely any separate distinctive stamp, and only very seldom that which usually characterizes the other purely dynamic diseases: intermittence and transitoriness, nor is it always that the affection occurs suddenly, and lasts but a short time; it sometimes appears more dangerous than it is. But it is most frequently only the want of indications of other causes, which serves as a guide, together with electricity, which, at least, according to Bouchut, in this case always produces perception and contractions.

The *symptomatic* deuteropathic paralysis is recognised, likewise, partly by the symptoms characterizing the disease of which it is an accident, partly by its causes.

These are either *anatomico-pathological* anomalies in the centre or periphery, the brain, the spinal cord, the nerves, the muscles, and parts immediately in contact, or diseases of the blood.

That the paralysis is *central*, and arises specially from a lesion in the *brain*, is inferred from the preceding or contemporaneous cerebral symptoms, from the fact of its location in the organs of sense and in the vocal apparatus, from acinesia of the arm and leg of one side—hemiplegia; it may be single or double. More on this subject in speaking of apoplexy.

If the paralysis proceeds from the *spinal cord*, if it be what is called spinal, it is observed most frequently in the lower part of the body, in the inferior extremities—paraplegia; where the paralysis takes place depends, however, upon what part of the spinal cord is attacked; it may, also, gradually become universal; it is more frequently than cerebral paralysis, accompanied by anesthesia.

The causes are the material abnormalities which act by pressing on or destroying the nervous mass: inflammations, hyperemia, hemorrhages and other exudations; then atrophy, hypertrophy, heterotrophy, softening, both internally and externally, and wounds of any kind.

I shall now, more particularly, describe a variety presenting characteristic features, and, if not always, most frequently depending on one of the disorganizations in the spinal cord just alluded to; that, namely, which for nearly two hundred years has been known under the name of *tabes dorsalis*, and which now, combined with additional symptoms, has obtained another name.

This manifests itself first in the lower extremities, compelling the patient to have recourse to various efforts, not necessary under other circumstances, to move or support his body; it is accompanied with a tripping, dragging, tottering gait, the legs being often flung hither and thither in the endeavour to preserve the equilibrium; there is also a feeling as if a ligature were tied around the legs and body, a sensation of treading upon something soft, instead of on the floor; a miscalculation,

causing the foot to be lifted too high or too low ; greater weariness after rest, less after continued walking, which cannot, however, be kept up very long ; walking is more difficult or impossible with closed eyes, or in the dark ; there is paralysis of the rectum and bladder, with alkaline urine, analgesia, wasting commencing in the paralyzed parts ; sometimes extension of the paralysis over several parts, whose muscles are under the influence of the nerves of the spinal cord, but also within the domain of the cerebrum ; the eyes usually suffer at a very early period, the mind last of all. A prominent symptom, in the vegetative system, is the rapid formation of bed sores. The cause is most frequently onanism ; the immediate result of the latter, spermatorrhea, at first irritative, then torpid, is also the most frequent precursor or attendant of the disease, for which reason it has recently been called paralysis erotica. It is rare among women, most frequent in youth and manhood, it occurs in both the strong and weak ; it may last for many years ; is curable only when it is not connected with degeneration of the spinal cord. I shall speak more fully of it hereafter.

The *peripheric* paralysis is recognised, partly by its limitation to a particular locality, by its not having been, or being, accompanied by central symptoms : partly by its causes, which likewise are local, and either hinder conduction or exclude contractility ; among these are arrest of the sources of the latter : of the arterial blood, by plugging of the arteries ; interruption of the current of the nerve-force, by injury, pressure, internal or external (incurable paralysis of the arm has arisen from pressure of the nerve against the back of a chair during a long sleep) and disorganization of the muscles, especially atrophy and fatty change ; with these must be enumerated exposure to cold, which, perhaps, acts equally on the nervous and muscular power.

Another class of symptomatic paralysis is the *chemical*, including those referrible to blood-poisoning. Hyperemia acts by pressure, and is therefore mechanical. Anemia by not restoring the exhausted nerve-force ; dysemia, on the contrary, acts in another and a peculiar mode. The diagnosis can seldom be based upon chemical analysis, not much more frequently on the difference of the symptoms ; most frequently it is founded upon the cause and the attendant phenomena. It manifests itself after phosphorus, arsenic, sulphuret of carbon, lathyrus, sativus and cicera, curare, nicotin, without any special signs ; in alcoholism by tremor ; after mercury, mostly in the arms, and by tremors ; after narcotics, and especially after anesthetics, it is always double and accompanied with perfect analgesia ; after lead it manifests itself as acinesia, particularly in the extensors, most frequently in the muscles of the forearm, fingers, and voice ; often with partial anesthesia, wasting of the muscles, when the disease lasts long ; and, according to Duchenne, with inaction of electricity. Paralysis does not arise directly from the rich man's blood-disease, whose represen-

tative is gout, nor from the poor man's with its prototype scrofula, unless we suppose many unnamed disorganizations to arise therefrom. I have seen a tedious and fatal *tabes dorsalis*, in a man of a particularly scrofulous family, set in, after the disappearance at a mineral bathing-place, of an extensive eczema; if we are to assume a peculiar psoric dysemia, the disease might also be ascribed to it. One of the forms of *spedalskhed* receives, as you know, the name of paralysis, *lepra anæsthetica*. Dysemia *cancerosa* produces paralysis, probably only by its localizations of pressure or destruction; how far violent pains in the paralyzed parts are, as I have on some occasions observed, results thereof, I cannot say. Many and many instances prove the origin of paralysis, as of other nervous disorders, from the syphilitic dysemia; Dr. Steenberg, in his thesis, has recently established this. The latter produces both hemiplegia and paraplegia, and probably many a disorganization of the muscles; the paralysis itself presents nothing peculiar; if there be no other trace of the disease, we can depend only on the most accurate investigation of the cause. The rheumatic dysemia can scarcely be denied to be a cause of paralysis, the latter will, for example, occur after a prolonged stay in the damp air; or, perhaps, from sleeping on damp ground. A very recently detected dysemia, referrible to an epidemic contagious poison, and recognizable by diphtheritic localizations, I shall hereafter more particularly describe.

Sympathetic paralysis is difficult to recognize. We must especially attend to certain co-existent diseases in the abdominal organs, with which it is occasionally connected: colic, dysentery, affections of the uterus, kidneys and bladder—paralysis urinaria, Leroy d'Etiolles. It has also been considered to be connected with dentition.

The *prognosis* in paralysis is generally bad; worse when it is double than single; when it occurs slowly and progressively than when it is sudden and stationary; worst when it depends on incurable disorganizations in the nervous or muscular system; less unfavourable when it is due to a blood disease, and least so when it is idiopathic. It is most frequently chronic, and may last for many years, longest when it is stationary; it may also be short, as in the hysterical variety, or even without belonging to the latter, it may, in a few weeks, terminate in death or in restoration to health—*P. acuta*, Landry. Cases are on record of paralysis increasing gradually throughout the whole body, and subsequently steadily and spontaneously decreasing in a few weeks. More frequently, we find the cause of its spontaneous disappearance to be the occurrence of some other disease: fever, diarrhea, furuncles, or a very violent psychical impression—joy, laughter, and especially fright. The symptomatic affection is not always removed when the primary disease is cured: hemiplegia, which continues after the cerebral exudations producing it have been absorbed, affords an example of this.

Before passing to the subject of treatment, I would glance at the various forms of paralysis, which have latterly been described as peculiar kinds, and shall begin with :

The *Diphtheritic*.—It is little more than thirty years since we became acquainted with the epidemic contagious disease, known by the name *diphtheria*, and scarcely ten years have elapsed since the paralysis itself was first described. Maingault has collected, and last year published, upwards of 40 cases; and the celebrated Trousseau has, during the present year, from his own experience, given the best description of the latter in his *Clinique médicale*. The paralysis, which is often double, resembles every other; it supervenes, in general a few days after the diphtheritic localization has been removed, wherever it has been, on the skin or mucous membranes, most frequently in the latter, and principally in the mouth and nose. It is observed first in the palate, and next in all the muscles of the cavity of the mouth—the voice becomes nasal, deglutition is difficult. The soft palate hangs down immovably, and can be brought into a state of contraction only by electricity. The paralysis now extends to different parts with the usual premonitory symptoms; it may cease in one place, and manifest itself in another; it is most frequently observed in the extremities and in the eye. Sometimes it is amenable to electricity, sometimes it is not; albuminuria does not exist. A few weeks after the occurrence of the paralysis of the palate, the second supervenes; amaurosis begins earliest and intermits earliest. On the whole, the duration of the disease is from two to eight months; most cases recover. Nevertheless, the mortality would appear, from the latest reports, to amount to from 12 to 15 per cent.

Among idiopathic paralyses, we must reckon two, to which attention has latterly been directed, and both of which stand in connexion with individuality.

One is peculiar to childhood, and was first described during the last two or three decennial periods by West, Kennedy, Rilliet and Barthez, &c. Either with premonitory phenomena, cerebral symptoms, particularly convulsions; or suddenly without these, frequently during sleep, acinesia occurs in a limb, the child cannot lift the arm or support itself upon its leg. This may disappear after hours, days, a few weeks, especially when it takes place suddenly without premonitory indications; but it may also continue, arrest the growth of the extremity, occasion obliquities and other deformities. If the child has been lifted up by an arm, or if it has fallen, this may easily be supposed to be the cause, and more readily if it is impatient and cries when examined. The diagnosis is, therefore, not always very easy.

The second paralysis of this class, whether affecting the organs of sensation or of motion, manifests itself in pregnant and parturient

women, and might, perhaps, also be referred to the sympathetic variety. It occurs most frequently in the first months of pregnancy, or some days, and occasionally even not until an entire month after delivery. Churchill, of Dublin, in 1854, collected and published many cases. It may be more or less extensive; usually it is hemiplegia. In one of the cases which came under my own observation, blindness and loss of speech, lasting forty-eight hours, occurred first three days after delivery, followed by complete paraplegia, without anesthesia, and with incapability of expressing exactly what the patient wished, as well as of remembering what she had learned as a child; she could not even recognize the letters of the alphabet. The disease diminished gradually, but a whole year elapsed before the patient was perfectly well. The paralyses which occur during pregnancy, usually disappear before parturition. Those which follow the latter, may last for many months, but are almost always curable.

There are still three kinds of paralysis, which have, of late years, received one and the same agnomen, viz., "progressive."

One of these is usually connected with insanity—*progressive paralysis of the insane*. It was first more accurately diagnosed by Bayle and Calmeil, in 1837. Numerous observations, especially in the two great asylums for the insane in Paris, have established its peculiar nature, and the eminent psychologist, Falret, has endeavoured to give the distinctive character between it and the other species of the same name. The difference lies, in the first place, in the meaning of the word "progressive;" this variety is progressive, not in extent, but in intensity. Very often—another experienced physician, Baillarger, says always—hypochondriacal monomania precedes the attack. Under all circumstances, the mind undergoes a change; usually it is depressed, and either immediately, or, at a later period, complete insanity supervenes, the absence of this is exceptional. The paralysis always manifests itself, and often most distinctly from the commencement, in the organs of speech—the words are with difficulty sent forth from the floundering lips, there is a simultaneous and slowly progressive paralysis of all the limbs, which, however, at certain intervals, appears to be stationary and even to get better, but, on the whole, steadily advances to its highest degree. Falret says that it is rather an irregularity in the contraction of the muscles, which gives the movements an uncertain and tottering character. It may be a long time before the patient is compelled to keep his bed, and he can there still move his limbs; the muscles are not more wasted than the other parts. It is, therefore, an incomplete acinesis, increasing in degree, and so far more generally diffused than many others, as it is also found in the inner senses, or, in connexion with weakness of the latter, proceeds from their very domicile. It is almost always, according to Parchappe's observations, made five or six years

ago, connected with softening of the grey substance of the brain; or, as Joire has lately stated, with granulations in the walls of the fourth ventricle. Yet, I must repeat what I have often before remarked, that we cannot assume a disorganization to be the sole cause of a given disease, which is not found in all who suffer from it. Electricity acts equally to the last. The disease is not curable.

Another paralysis, also called "progressive," is that which Duchenne, last year, described more accurately under the name of *ataxie locomotrice progressive*. It is distinguished by some symptoms from the *tabes dorsalis*, already described, which it, in many respects, resembles. The phenomena of the paralysis are about the same, but it is not always in the lower extremities that it first begins. On the contrary, what is first observed in it is a preceding, and usually persistent, paralysis in the muscles of the eye and in the eye itself. Next we find violent, sometimes fugitive, pains in particular parts. I have seen them followed by paralysis increasing for some hours or days, and disappearing in an equally long or short time. There is more frequently analgesia than anesthesia; the muscles are not in a condition to perform their functions, notwithstanding that they possess their ordinary power, as is proved either by the dynamometer, or by endeavouring, for example, forcibly to bend the leg which the patient keeps extended, and on which he cannot support himself. To explain this, Duchenne supposes that the disease consists in a loss of the power of co-ordination, since all the muscles, participating in a certain movement, have lost this power, and must act without it as well as they can. According to this view, we should transfer chorea from the class of spasms to that of paralysis, for in it this quality is not less deficient. In a practical point, the distinction which Duchenne draws between muscular feeling and muscular consciousness, is not of importance; by the former we are said to recognize weight and resistance; the latter enables us to initiate and leave off movement without the aid of sight, which, where it is wanting, must direct movement, or the latter becomes impossible. Involuntary contractions in the muscles frequently occur, sometimes when the patient places his foot firmly against anything; electricity always acts. The causes, observes Duchenne, are unknown; but Trousseau, in his clinical lectures delivered this year, in which he communicates his experience, mentions spermatorrhea as existing in more than half the patients, which is still further corroboration of the affinity of the affection with *tabes dorsalis*. It may also, certainly, be the result of a dysemia. *Post mortem* examinations are as yet too few to enable us to judge of the difference. It may last for many years; there is scarcely any hope of recovery, especially when, as sometimes happens, the affection is complicated with the atrophic paralysis.

The latter is also a form to which Duchenne, about 20 years ago,

called the attention of the profession, under the name of *Paralysis Muscularis Progressiva Atrophica*. It was more accurately described by two distinguished Frenchmen, Cruveilhier, and Aran lately lost to science. The former believed that he had found its cause in a wasting of the anterior roots of the spinal nerves, which has, however, not been confirmed by subsequent investigations. The disease begins with pains, more or less violent, which may even last for many months, and are considered to be rheumatic, until the paralysis gradually shows itself, increasing in a single muscle or set of muscles, which, by dwindling away, contributes to produce a change of form in the limb; it is chiefly the muscles of the arm, and particularly of the hand, which are first attacked, but those of the lower extremities and body also suffer in the same manner. So long as a fibre still remains, and the entire muscle has not wasted away, or been changed into a fatty mass, it presents tremors, involuntary contractions, obedience to the will and to electricity, diminishing with the progress of the disorganization. The paralysis may last for many years, either extending more and more, or remaining stationary in particular muscles. Dr. Roberts of Manchester, and Dr. Sandahl of Sweden, have recently collected upwards of 100 cases, and the etiological result is, that over exertion of particular muscular parts, for example, in mechanics, or exposure to cold, is the most frequent cause, but many others are also observed; thus Dr. Banks of Dublin, relates a case, where, after a blow on the head, followed by a brief period of unconsciousness, slowly progressive paralysis was observed in the thumbs and in the muscles of one leg, which became four inches less in circumference than the other. After the lapse of a year the progress ceased, and the man, who was 64 years of age, and was otherwise in good health, had since, during the space of 24 years, not observed any increase, but dragged the affected leg after him. An arrest may therefore be hoped for; indeed, perhaps before the fatty change sets in, nutrition may again take place and return with contractility; but in more than one-half the number of instances the paralysis continues general.

I have thus given a short description of the species of paralysis recently described; we thence find that our diagnostic resources have been largely increased, but not our therapeutic means; a wide field is open for fresh investigations and repeated experiments, especially with electricity, whose value, as a test and as a remedy, is undoubted.

The *treatment* in this disease is as manifold as its causes; there is consequently no one method which can be considered as indispensable.

In *symptomatic paralysis* that mode must be chosen which is suitable to the proximate cause of the disease; what that may be, depends on the often difficult diagnosis, and cannot at present be more accurately specified, without entering into the whole subject of therapeutics. I

shall mention only a few examples. Thus venesection may be necessary where the central organs suffer from inflammation, or are oppressed with hyperemia within or externally to the veins, but the use of this remedy has of late years been properly restricted, especially in hemorrhages, where it might even prove injurious. The strengthening plan is advantageous where the disease is the result of anemia or scrofula; perhaps, also, if there be reason to suspect softening. Often we must endeavour to promote absorption where either a fluid extravasation compresses the nervous mass or a more solid one makes it abnormal. This may be done partly by determining the morbid matter, or power to the skin by means which produce irritation and secretion, partly by the exhibition of internal excitants, either general or specific; as, for example, mercury and iodine; but it is uncertain whether, when these have had a beneficial effect, they do not owe the latter to their anti-syphilitic properties. If syphilis is suspected to be the cause, both may successively be tried, and if they prove of no avail, the natural sulphur baths are well worth a trial. In paralysis proceeding from other poisons, the suitable antidotes are given either before or simultaneously with the direct treatment. If the paralysis be the effect of wasting of the muscles, long-continued Faradization will sometimes restore nutrition and arouse the dormant powers of the system.

In *symptomatic paralyses* it is necessary to ascertain their starting point, and to direct the treatment accordingly.

When the paralysis is *idiopathic*, when the diseases of which it is a symptom are removed without restoration of power, or when these are not of such a nature as to render the special anti-paralytic means injurious, the latter must, at the earliest possible moment, be employed, either alone or in connexion with others simultaneously indicated.

The most rational division of these means would be into those which restore the power of the nerves, or re-establish their interrupted conduction, and those which re-invest the muscles with their normal force and mass; but we are not yet in a condition accurately to classify the effects of remedies in this respect, and we shall therefore adopt a simpler division, namely, into external and internal means.

Of external means some, which I shall only name in passing, are particularly useful in local paralyses, namely, the simple or compound mechanical apparatus or bandages employed by surgeons in deformities in which this disease plays a part; while in general paralysis it is also necessary to support the affected parts so as to prevent the implicated muscles from becoming still more relaxed.

Warm clothing is not to be neglected; woollens, deer skin, &c., should be worn. If a rheumatic origin be suspected, thin flannel, covered with oil cloth, should be employed. *Friction*, with woollens, or with flesh brushes alone, rubbing in ointments or spirit, with camphor, ammonia,

turpentine, cajeput oil, cantharides, phosphorus (10 grains to the ounce); whipping with rods or nettles; *baths*: either local or general, of sand, vapour, cold or warm water, plain or mixed with soap, brandy, sulphur, malt, caustic potash, soda, carbonate of potash, aqua regia, cold washing or douches along the spine. *Derivatives*—but not issues or setons, producing much suppuration, which, in idiopathic paralysis, might make the patient's state worse, are often advantageously employed, especially along the spine; repeated small moxas, inunction of irritating ointments, particularly of tartar emetic. (I saw a paraplegia of long standing disappear in 14 days after an eruption so produced along the whole spine, which was certainly very painful; the patient was pregnant and would, perhaps, have been more gently cured by nature, though not so quickly.) The irritation produced by mustard poultices is less painful and perhaps as efficacious. Lastly, I may mention the two most important means, namely, strychnia and electricity. The latter is applied by means of a rotatory or induction machine, as Faradization being made stronger or weaker in proportion to the muscular sensibility for 10 or 15 minutes at a time, every day—more or less frequently, according to circumstances; often it is necessary to combine acupuncture with platina needles inserted in the muscles. Gavaret, in 1843, and Duchenne, in 1855, have accurately described and collected a number of cases exhibiting the great utility of electricity. A still larger number have been published by Remak. The second principal remedy, formerly more extensively employed, is strychnia, the internal use of which I shall just now allude to. It is employed in the form of ointment, in the proportion of a scruple to the ounce, rubbed in both on the part affected and along the spine, or it is sprinkled, to the amount of half a grain, on the skin, deprived of its cuticle by blistering or other means. Both remedies are equally applicable in paralysis of sensation and of motion, and act particularly in diseases of the organs of sense, and where muscular contractility is deficient. The fact that the spasms produced by them are often stronger in the paralyzed than in the healthy muscles probably depends on the contractility accumulated during a lengthened period of inactivity. Among external means must also be enumerated passive, and as far as possible, active motion; the former by the aid of others, the latter by a powerful exertion of the will, uninterruptedly sending its orders to the paralyzed part. The so-called Swedish gymnastic method is also an excellent agent in such cases.

Many different internal medicines are recommended in idiopathic paralysis, particularly stimulants and anti-spasmodics: ether, ammonia, camphor, phosphorus, oil of cajeput, musk, valerian, arnica, &c. Many cases of paralysis are relieved by their use; it is possible, however, that they may be directly advantageous only in hysterical cases; perhaps they arouse the vital powers in the vegetative sphere, promote the metamor-

phosis of tissue and absorption; in the latter case their effect is mediate, and they may be classed among the means beneficial in symptomatic, exaltative paralysis, just as emetics and drastics, which act violently on the intestinal canal, where they have been of use, have probably attacked the disease from the sympathetic side. Iron and bark are, of course, also efficacious in the paralyzes dependent on weakness, either alone or in combination with the principal remedy, nux vomica or strychnia; the extract of the former is given in ascending doses from a quarter of a grain to two grains, or more, three times a day. The first dose of strychnia should be one-twelfth of a grain, thrice daily. Usually after the use of three-quarters of a grain in the day, spasms set in in the paralyzed muscles, but cease so soon as the medicine is discontinued. It is only a peculiar individuality or idiosyncrasy which may give rise to more prolonged intoxication. When the spasms cease the medicine is to be resumed, but in the smaller dose. The remedy is best given in pills or drops, which admit of being gradually increased. Many other specifics are recommended, but we have not sufficient experience of their utility; such are *rhus toxicodendron* and *rhus radicans*; *tinctura colocynthidum* and *tinctura nicotianæ*; *tinctura cantharidum*, which acts specially in anaphrodisia; *secale cornutum*, which has been found useful in paralysis of the bladder and uterus, and is therefore employed in the universal form of the disease.

The diet should be strengthening and exhilarating, both for the body and for the mind; violent psychical impressions, which have occasionally caused the paralyzed to walk—for example, fear of being destroyed in a burning house, we can certainly not employ—but such as are of a milder nature may be used. Boerhaave speaks of a favourite sultana who was cured by a violent effort to oppose her physician's attempt to touch her feet, which no modest Turkish woman will permit; leave had, of course, been obtained from the sultan to attempt the cure in this mode.

There is, properly speaking, no special treatment for the several varieties of idiopathic paralysis. For paralysis agitans, which is most frequently met with in drinkers and old people, usually in the extremities, and which makes regular motion impossible, there is scarcely any remedy. As the paralysis of children and of pregnant or puerperal women may pass away of itself, we ought, at least, not to employ the stronger and more powerful remedies against it. Cure of the paralysis of the insane is not attainable; attempts to effect it are thrown away. In ataxia the general means should be employed; in the atrophic form Faradization should be continued for a long time; it may, perhaps, be cured, where disorganization has not commenced; but, under all circumstances, we may hope to be able to arrest its progress when the cause is only local exertion or exposure to cold. Gastein is said even to have cured a case of the universal form of the affection. In the diphtheritic variety

strengthening means and sulphur baths are regarded as the best remedies ; at least, they are what should first be tried ; besides, the others may also be tried if these fail.

If it be asked what mineral baths are most serviceable in this disease ? it may be answered, none, or all ; none, where the paralysis depends upon disorganization ; that the disease is made worse by them, or, at least, is not improved, while the patient's sufferings are rather increased by the journey is certain. If we bear in mind all the causes of paralysis we may also see that the answer " all " is well-founded, and particularly all where there are good apparatus for douche, vapour, mud, and carbonated baths. The choice depends upon the main disease, of which the paralysis is a symptom, or by which it is sympathetically produced, sometimes on other incidental circumstances—the difficulty or expense of the journey, family matters, &c. It is, therefore, well that there are many to choose from.

The most efficacious are the acratie—Gastein, Wildbad, Pfeffers, Plombières, Bourbonne les Bains, Balaruc, Aix-en-Savoie, Leuken ; but they can be recommended only where the paralysis is idiopathic ; if there be the least suspicion of a material cause ; for example—of an unabsorbed extravasation after apoplexy, we must first wait for a few months, and recommend such baths as the Soolensprudel, which, at the same time, promote absorption, or act as derivatives on the intestinal canal—Oïounhausen, Nauheim, and the sparkling Kissingen. These are also serviceable where the glandular system has had an influence in producing the disease. In such cases, and in paralysis caused by anemia or weakness, chalybeate baths are also useful, the more freely impregnated with carbonic acid gas the better. To the rheumatic variety Wiesbaden and Toplitz are the most suitable ; and these are also said to be most efficacious in paralysis after parturition ; or the sulphur baths at Aix, Baden in Switzerland, or Baden near Vienna, and Sandefjord. Sulphur baths are, moreover, serviceable in all cases due to the presence of metallic poisons, lead, mercury, arsenic, &c. They are also indirectly useful in those of syphilitic complication. Partly owing to their carbonated and mud baths, partly as acting on the abdominal organs, if the paralysis be of a reflex nature depending thereon, or in consequence of their chalybeate quality, the waters of Franzensbad and Marienbad have often been successful. While hemiplegic patients are sent first to the less heating saline baths, those who are paraplegic may unhesitatingly commence treatment at the acratie baths above-mentioned. If a sojourn in Italy be preferred, Lucca and Ischia, with their excellent sand baths, may be recommended. How far atrophic paralysis ought to be submitted to treatment at the acratie baths must be decided by future experience.

Two Cases of Eye Disease. By PROFESSOR ARLT. (Sitzungs Berichte. 17th May, 1861.) Wochenblatt, p. 202.

PROFESSOR ARLT presented two interesting cases of eye disease. The first was affected with blepharospasmus idiopathicus. Arlt had only observed six such cases before. The present instance, the youngest of all, is 36 years of age; without having ever had any important disease; the eyes also present no abnormality whatever; but, for about a year, she has been unable to keep her eye-lids open; they are spasmodically drawn together, and then they open of their own accord, but always only for a few minutes. The spasm presents itself only in the region of the mus. orbicularis palpebrarum, and the mus. corrugator superciliorum. The other muscles of the face are not in the slightest degree affected. The spasmodic contractions and jerkings come on without any cause, and cannot be overcome, not even by the endeavours to open the lids with the fingers. Only when, at the clinic, the lids are forcibly opened do they remain from half to a whole hour open; it was afterwards discovered that a heavy, somewhat painful, pressure on the supra-orbital nerve had the same effect. No disturbance in the sensibility of the branches of the trigeminus can be discovered, neither in the skin of the face, nor in the conjunctiva or cornea. The vision is perfect. Arlt intends to observe the case, and eventually to divide the supraorbital nerve. Arlt alludes to four cases in his treatise, on one of whom the operation was performed in Vienna without the desired result, and one under Graefe's observation, in which the operation effected a cure.

The second patient is a gardener, 30 years of age, pale but healthy. He always had good sight, and never had any injury or inflammation of his eyes, and was only slightly short sighted. On the 1st of March, 1860, as he was bending at his work, he was unable to proceed from cloudiness and double vision. When he presented himself at the clinic, nothing abnormal existed, with the exception that the lens of the left eye had fallen into the anterior chamber, and its inner edge pressed against the cornea; the lens of the right eye was simply dislocated, and pushed inwards. Professor Arlt kept the patient a long time on his back, cold applications and atropine in solution applied externally. As the retraction of the iris behind the lens did not take place, and as opacity and cloudiness of the cornea was to be feared by the lens remaining in the anterior chamber, Arlt removed the lens by a flap incision. Immediately after this was finished the lens came forth from the eye, light-yellow, perfectly transparent, almost spherical, and enclosed in its uninjured capsule, without a trace of vitreous humour; and the object of the operation was obtained in the most simple and fortunate manner. The wound healed without accident, and the man was dismissed without danger three weeks after the operation. The inspection with convex glasses showed that the retina was uninjured, and that the vitreous humour was free from opacities.

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THE
DUBLIN QUARTERLY JOURNAL
OF
MEDICAL SCIENCE.

NOVEMBER 1, 1862.

PART I.
ORIGINAL COMMUNICATIONS.

ART. IX.—*The Restoration of a Lost Nose.—A Series of Cases.*
By JOHN HAMILTON, Surgeon to the Richmond Hospital.

(Continued from Vols. xxiv. and xxv.)

CASE III.—Dennis O’Keeffe, aged 30, admitted with the nose nearly destroyed by lupus—the greater part of the nasal bones, the septum, the tip, and the alæ having been ulcerated away. The cicatrized portions of the integuments of the nose have fallen flat, so that from between the eyes downwards the remains of the nose are on a level with the cheeks. The integument, which has fallen over the nostrils, and closes them, with the exception of a transverse slit at the lower part, presents a shining, reddish, irregular surface from former ulceration; and this extends a little on either side of the face. Some irregular cicatrization, but less marked, is observable between the eyes; and there is a slightly prominent narrow white band of cicatrix at the right rim of this space, extending up between the eyebrows to the forehead, and an inch above the right eyebrow. The skin is shining and cicatrized; and, therefore, from this part of the forehead no flap could be taken to form the new nose. The condition of the nose, independent of deformity, is further

distressing by rendering respiration difficult; and the opening is so small that it becomes clogged by mucosities, which are discharged with considerable effort.

The disease began eight months before with a small pimple on the side of the septum.



July 28, 1858.—*Operation.*—The chloroform was unsatisfactory, exciting rather than quieting him. I first removed the cicatrized and puckered integument which covered the nostrils. This I did by passing a strong probe bistoury through the slit at the lower end of the remains of the nose, and cutting out horizontally, on both sides, and then on each side, obliquely upwards to the centre. The triangular portion thus isolated was found adherent beneath to the remains of the septum, from which it had to be detached. Both nostrils were now open; and I could put my finger into each. The blood flowed so freely from the thick divided edges that, to prevent its getting back into the mouth, I stuffed the nostrils with pieces of sponge. I next cut from the centre of the bridge of the nose, downwards and outwards, deep, and about one-third of an inch beyond the edge of the open nostrils; the edges of the incisions were dissected up a little, and a raw space left on each side of about half an inch wide. The bleeding, which was profuse, subsided under pressure with a sponge wet with cold water. The

flap was next removed from the forehead, not as usual from the centre, but a little to the left, to avoid the cicatrized portion of the integument, which began in the middle of the forehead, and extended to the right side. In carrying the incisions between the eyebrows I had also to keep from the right side, to avoid the prominent band of cicatrix which there existed. This root of the new nose was broad and thick. A small artery bled so smartly it had to be tied; but the bleeding from the sides and base of the wound, left by the removal of the forehead flap, yielded to cold water and a few small compresses of dry lint. After all bleeding had ceased, the flap was adapted to the raw surface and edges of the old nose, and fitted accurately, with plenty of freedom, not the least on the stretch. It was secured by three sutures of silk on each side, and a piece of sticking plaster across the upper part, to keep the raw surfaces there in close contact; but not too tightly, for fear of strangulating the vascular supply; for if strong pressure with the finger was applied, the whole flap became pale. The lower part of the gaping wound of the forehead was brought in contact by a needle and twisted suture; but not as low as usual, for fear of the effects of pressure on the band of cicatrix. The rest of this wound was dressed with pledgets of lint smeared with ointment. A long pledget of lint, dipped in oil, was put under the flap of the new nose.

Second day.—Doing well; the new nose quite warm; only complains of soreness of the forehead and difficulty of respiration, from the closure of the nostrils with lint, which I had had to stuff them with, as bleeding began from the edges when I withdrew the pieces of sponge.

Third day.—Complains much of pain in the forehead and soreness at the lower part, between the eyebrows and a little above it. I found this part swollen and red, and the needle pressing into it. I therefore withdrew the needle, rotating it and using careful traction, so as not to disturb the adhesions, did any exist.

Fifth day.—The parts were very uncomfortable, with a hot, sore feel of the forehead. The dressings were all removed. Adhesion had taken place all along the line of the new nose at each side; also between the eyebrows, where the parts had been brought together by the needle and twisted suture. The open wound of the forehead was greenish on the surface, and no sign of granulation; but the edges were not unusually inflamed, and the whole contracted in size. A soft bread-and-water poultice. The

plugs of lint were removed from under the flap of the new nose and from the nostrils. A fresh piece was put under the flap.

Sixth day.—When the poultice was removed, the forehead wound was red and granulating. The six ligatures were removed, the adhesion of the edges of the wounds being perfect throughout. General health and appetite good.

Twenty-third day.—As far as union and vitality, the case has done very well; but, from the destruction of all the nasal bones, and the septum in great part, the flap lies too flat; and about one-third from the bottom of the new nose there is a transverse depression, marring the outline of the nose. There is a tendency also to too close union between the inside of the nasal flap and the raw surface of the septum and the edges of the nostrils. This not only causes the depression I have mentioned, but interferes with the freedom of respiration. I therefore divided the adhesions, and plugged up the space very well, and very high, with lint. I found this operation of use; the transverse depression considerably lessened. After taking away the plug of lint, I replaced it with a triangular piece of horn, fashioned to the shape of the part, being outwardly convex, and with two small holes for strings to keep it secure. These strings, when the piece of horn was pushed up as high as it would go, were carried round the head above the ears, and fastened at the occiput. He liked it better than plugging with lint, and could breathe quite easily.

In the seventh week I divided the connecting slip at the root of the nose, and cut a bed for it, in which, after the edges had been pared, it was placed, and secured by sutures. It united at once by the first intention, except at the very tip. To show how well the new nose had been supplied by blood at this situation, directly I divided the slip a vessel as large as the labial spirted into my face.

During the latter period of healing I put first two pieces of sponge, and afterwards two pieces of large catheter, in the nostrils to ensure their openings.

The eleventh week he went home.

The nose presented a very respectable aspect, particularly in front. It was too flat in profile. At the lower third there is a tendency to the turn-up or pug-nose form. I found that this was increased by raising the end of the nose, so I determined not to put a septum. It would, moreover, not have improved the appearance, the centre small projecting piece of the flap having turned in so as to present the character of a short septum, with the openings of the nostrils on

either side sufficiently large and free for him to breathe through perfectly. He says he has the natural feel of a nose, and *can smell*



well, which he could not do before the operation, probably because respiration through the mutilated nose was so imperfect.

The flesh also of the new organ is of a good colour, a little paler,



perhaps, than usual, of the natural temperature, and of firm con-

sistence, offering in this respect another confirmation of the curious physiological fact, of the nose supporting vessels having deposited in the new nose a material approaching that of the natural organ, and thus turned a soft loose flap, as it came from the skin of the forehead into a firm fleshy structure, not far removed from the consistence of the real nose; another reason may be the contraction and necessary consolidation of the part. Altogether, therefore, the operation has succeeded very well in improving his appearance, and by facilitating nasal respiration, and restoring the sense of smell, added materially to his comfort.

Two years and five months after, I received a satisfactory letter from O'Keeffe: "If you were to see me now you would scarcely know me, as I am the surprise of all who saw me before I had the good fortune of becoming a patient of yours."

CASE IV.—Thomas Taylor, aged 14, admitted into the Richmond Hospital, October 28th, 1858, with considerable deformity and diminution of the nose, from caries and necrosis of the osseous portion of the organ. Nearly two years before, he began to suffer from a discharge from the nose, and after a time a small piece of bone came away, which was followed by the discharge of several more pieces, one very large, with an increased flow of matter, but little pain, except one large piece, which hurt him severely, cutting the edges of the nostril, and causing a good deal of bleeding.

Last May he perceived a discharge from the palate, a hole came there, and finally a loose bit of bone was felt and pulled away; it was long and thin. The bony and cartilaginous supports having been destroyed, the shape of the nose is gone; it is quite flat to the face. The tip of the nose is represented by a small pale papilla in the centre, with deep ridges on each side, particularly the left, where the soft part of the nose is, as it were, folded to that side. These soft parts, however, with the lateral cartilages, are healthy looking. Under the papilla in the centre is an opening into the nose, representing, as it were, a single central nostril; through this there was a little yellow discharge, but no diseased bone internally was discoverable. There was a hole in the hard palate.

He was a delicate looking little fellow, with a head disproportionately large for his neck.

It was a very unfavourable case for operation, as the absence of the nasal bones and any portion of the cartilaginous septum deprived me of any support for a flap; but both the boy, who was very

intelligent, and his mother were anxious that something should be done, I therefore reluctantly consented. I resolved to make the centre papilla of the old nose a support for the flap of the new one; it was the only part I could use for this purpose, from the depressed, wrinkled, and irregular surface of the other soft parts left of the old nose.

March 10th, 1859.—I operated in the usual way, except that from the inside of the upper third of the lateral incisions I carried obliquely down on each side two incisions which met at the lower part of the central papilla, so as to isolate a triangular piece of the integument in the centre, which, being removed, left a more extended raw surface for the flap from the forehead to rest upon. When this was turned over, it was found to fit accurately down the sides, leaving the centre loose and unstretched, flapping slightly to and fro with inspiration and expiration. Three ligatures were put in on each side, the two lower of silk, the upper of silver wire, fastened by perforated shot. A strip of lint, wet with oil, was gently put up the nose at the lower part of the flap. Across the upper part of the flap of the new nose a piece of sticking plaster was drawn, so as to press the two raw surfaces in contact there close together. Before I settled the flap, I dressed the wound on the forehead from which it had been taken, to lessen the quantity of blood lost, as it bled freely. The lower and narrower end of this wound I brought into apposition by a needle and twisted suture, and above this with a single suture. The remaining open part was dressed from the bottom by pledgets of lint smeared with simple ointment. Waiting for the hemorrhage and also the vomiting from the chloroform to cease before the parts were arranged, rendered the operation tedious. Even after he was put to bed he vomited, but happily without disturbing the dressings.

Third day.—Union has taken place along the sides, except in one spot on the left. The new nose looks remarkably well, and his appearance is already improved by it.

Fourth day.—As the union appeared everywhere firm (except at the spot already mentioned) I removed all the ligatures. It was remarkable how little irritation existed where the silver wire ligatures were. There was a strong contrast in their favour.

Seven weeks after the operation the union was everywhere complete, and the new nose confirmed in its vascular supply, firm, and full of vitality. I divided the root of connexion, pared its edges, and fixed it in an incision made to receive it in the soft parts

at the root of the nose. It was fastened by two sutures; one side united by the first, the other by the second, intention. Some weeks after I tried to form a septum from the upper lip, and united it to the projection at the lower end of the flap of the new nose (left for the purpose) by silver ligature. He complained a good deal when the needle perforated the end of the new nose, showing its sensibility. The new septum united for a few days, and then shrivelled away; and, as it did not seem essential to the appearance of the nose, I thought it best to make no further attempt to make one.



The woodcuts will show the extent of the destruction of the nose, and consequent great deformity; and the improvement in his appearance by the restoration.



I got a letter from Taylor two years afterwards, saying, "I am getting on very well, and the mark in my forehead is gradually decreasing every day; and my nose is much better than when I left Dublin."

CASE V.—Mary Neil, aged 18, a stout young woman, admitted with lupus of the nose, which had already destroyed that organ. The whole of the cartilaginous structures, both *alæ* and septum, were gone. The septum was destroyed even within the nose, and there is still ulceration in the remains of it. The sides have cicatrized, except at one spot within the lateral pillar of the nose; but the ulceration is not extensive. The left nostril is contracted by adhesions, and is one-third less than the other. The right nostril also appears a little lessened by adhesions at the bottom. From this cause, and the swelling of the remains of the septum round the ulcer, the passages of the nose are considerably diminished—an instinctive provision of nature (whose similar operations the surgeon has so often to admire) to make up for the destruction of those parts which covered and protected the interior of the organ of smell. There is a belt of that deep scurfy redness across the bridge of the nose, so common in these cases; it extends to the cheeks, and terminates in an ulcerated margin—the ulcers small, superficial, and yellow, of a semilunar shape, the outer edge sharp and distinct, and some are covered with a greenish scab.



Taken altogether, the complete destruction of the two lower thirds of the nose flat to the face, the exposition of the interior, the

red, scurfy, ulcerated patch over the nose and cheeks, constituted a repulsive deformity.

She was ordered an ounce of the decoction of *scrophularia nodosa*, with five grains of the hydriodate of potash, three times a day. The ulcerated parts were touched with the *potassa fusa*.

But, in spite of this and other treatment, the ulceration at the roof of the nose proved very obstinate, and it was only some months after admission that I could operate. I allowed her to remain two months well before I did so, and then her health was excellent.

December 5th, 1860.—I need not dwell on the steps of the operation, which presented nothing unusual, except that, after the stump of the nose had been made raw, the bleeding was very free, being kept up chiefly by a small artery in the lower left angle, which required strong continued compression with a cold wet sponge to stop it, as I was anxious to avoid ligature. The forehead wound bled also very smartly, but was quickly restrained by iced water. Indeed, with the exception of the small artery, the hemorrhage in this case, though violent, was more rapidly checked by this method than usual. Six silver-wire sutures were used to secure the nose-flap.

December 8th (third day).—Has gone on well, only occasionally slightly hysterical. The union of the new nose appeared firm and



complete—the nose itself warm and natural in colour. The wound also between the eyebrows had united; so I removed the two needles and twisted suture there. The silver sutures were removed

a few days after; and in about a month the connecting slip was divided, pared, and put into a bed prepared for it. Union by the first intention took place. In no case had I less trouble than in this one. Even in the third week (December 28th) the nose looked very natural; and she remarked, that "she saw that day what she had not seen for ten years, *the shadow of her nose on the wall.*"

The wood-cut shows how great was the deformity prior to the operation.

CASE VI.—April 2nd, 1862.—I operated on Winifred Byrne. She was a short, stout young woman, the lower half of whose nose had been destroyed by lupus. The cartilaginous septum was gone, the tip, and the alæ; the cicatrized edges white and hard. The destruction had stopped at the bony septum, which is entire.



The cicatrized edges were white and hard; but the bridge of the nose, and extending across to the cheeks on either side, was red and rather scurfy. Destructive ulceration was going on inside the nose, on the remains of the septum, and inside the tip; but, under varied treatment, rendered difficult by extreme irritability of stomach, and by occasionally sending her to the country, I managed to heal the ulceration, and restore her to good general health. There were few circumstances in the operation worth detailing at length. The chloroform, which acted very well in saving suffering, made her stomach sick; but, in consequence of the precaution of no food having been taken for two or three hours previous to the operation, it caused little trouble or delay. Time was also saved by using iced water to restrain the hemorrhage. The flap, when turned down, fitted well. I could not bring the open gap left by the flap as close as usual, but dressed it with lint and spermaceti

ointment, and it healed up well. When making the flap incisions at each side of the root of the nose between the eyebrows, I found some difficulty in making them even, in consequence of her wrinkling this part up so much while the edge of the knife passed along it, although senseless from chloroform. Three ligatures were required on the right, and four on the left side. The lower ligatures were silver wire, the upper silk—which last I used in consequence of their more ready introduction. The wound nearly entirely united by the first intention. I did not remove the silver ligatures till the eighth day.

April 30th.—The twenty-eighth day I divided the root of the flap, pared the edges, and fixed it, in a bed prepared for it, by silver-wire sutures.



May 7th.—This united by first intention. The nose is getting firm and natural-looking. The centre bit retracted back, and looks like a septum.



May 10th.—She is very proud of the nose, and happy in walking about without a veil, which she always previously used. Her attention to personal appearance is shown by her now wearing a pair of gold ear-rings. She was very anxious to show the nose to her friends, so I let her go home for a week.

June 7th.—She finally left the hospital. The nose in every way satisfactory, except that, I think, it is a little too broad. It may contract somewhat and become narrower, but not much. The reason I believe to be, that the bed I made for the new nose-flap was rather too wide.

ART. X.—*A Retrospect of some Cases of Stricture of the Urethra treated by J. SMYLY, A.B., Surgeon to the Meath Hospital.*

THE following Cases, selected from notes taken at the time the patients were under observation, may serve to illustrate the pathology and some of the plans of treatment employed in strictures:—

REFLEX SYMPTOMS.

Many local and constitutional affections are found to depend upon the presence of stricture, the connexion of which is not very obvious. Thus, in a patient who had a chronic enlargement of the testicle, which resisted all treatment applied to the part, the scleroma was found to yield immediately after dilatation of the strictures. Neuralgia of the testicle, also, has been found to be relieved by treatment applied to the urethra.

A well-marked case of paraplegia, occurring in a groom aged 35 years, was also cured by the removal of the stricture in his urethra. This man recovered the use of his legs so completely as to be able to resume his work in the livery stables.

Pains, supposed to be rheumatic, often depend upon the existence of stricture. A man thus affected applied for relief. He was much crippled, and could hardly raise his hands to his head. He concealed the fact that he had strictures, and that he had laboured under them for the last 20 years, because, when under treatment for them formerly, he had suffered from profuse hemorrhage. The nature of his case being explained to him, the patient consented to have the strictures dilated. According as the strictures yielded the pains disappeared.

*The following is a Case of Neuralgia affecting the Anterior Crural, the Sciatic, and the Spermatie Nerves, depending upon, and cured by, the Dilatation of the Stricture:—*William Manly, aged 50, a coachmaker: severe pains in the left hip and groin, also in the testicle of the same side, has strictures for the last three years; was cupped over the hip, on two occasions, without relief, and had taken Dover's powders; was fired over seat of pain, had taken tinct. of cannabis-Indicæ, &c., &c., &c.; he was taken into the hospital and treated for the strictures by dilatation: in 18 days he was dismissed, cured.

DILATATION.

The plan of cure usually resorted to is that by dilatation—simple, but persistent. This has generally been found satisfactory: it is safe, efficacious, but “dilatory.”

The following is an instance of cure by “forcible dilatation.” The result was successful, and the patient escaped all the evils that might have been apprehended. It was employed in imitation of the French—M. Lallemand, in particular—and is effected by employing a rapid succession of conical metallic catheters. It is very inferior to the plan of sudden and forcible dilatation advocated by Mr. B. Holt, and so admirably carried out by the ingenious instrument he has invented for the purpose:—

*Stricture, of two years' standing, cured by Forcible Dilatation.—*Terry Smith, aged 50, labourer: aggravated symptoms of stricture for the last two years. Had gonorrhea 20 years ago, and not since. One stricture was situated two inches from the orifice, and a second, and a closer one, six inches down.

Oct. 22nd, '38.—Had suffered from retention of urine all night; the instrument could not be passed through the strictures; some urine, however, followed on its withdrawal. The tincture of muriate of iron and the warm bath afforded considerable relief.

23rd.—Had passed a good night, and was free from suffering. A conical silver catheter was this morning forced through the stricture. This was unattended with any bad symptoms. The patient made a good recovery, and was able to leave the hospital, greatly relieved, on the 10th of November (18 days after).

The two following Cases are examples of the benefit to be derived from having a Catheter in the Stricture till Suppuration is estab-

lished:—Patrick Moore, aged 24 years, who had a stricture in the anterior part of his urethra, two and a-half inches from the orifice, for the last 12 months: for eight months he was under treatment by occasional dilatation, but the day after the introduction of the instrument the stricture was as tight as ever; when the catheter was left permanently in the urethra, so as to cause suppuration, the stricture was effectually cured.

The next was an equally successful case, and was cured two years ago. There has been no relapse:—

Case of Stricture of the Urethra, of four years' standing; Cured by Dilatation and Suppuration.—A military gentleman, aged about 30, applied at a late hour to be relieved; he was suffering great pain from retention of urine. He had contracted gonorrhea upwards of four years ago, and was never properly cured. He has used strong injections. Has been for some years in India, from whence he has just returned. An attempt was made to pass a number five silver catheter; the instrument was arrested at the stricture: a conical gum elastic bougie was introduced into the stricture, but not through it, and on its withdrawal, the water followed, and the bladder was emptied. The following morning no urine could be passed till the bougie was introduced.

The nature of his case was then explained to the patient: he was told that if he consented to keep his bed, and retain a gum-elastic catheter in his urethra, for a few days, he might expect to be cured. To this he consented. Having had a warm bath and some aperient medicine, a small gum-elastic catheter was introduced into the bladder, and secured in the urethra: on the third day, when suppuration was established, a larger instrument was substituted for the smaller one: he suffered no uneasiness from the presence of the catheter; had no rigors nor constitutional symptoms; all trace of stricture speedily disappeared; a full-sized instrument could be introduced; he was permitted to go to the country, where his health, which had been greatly impaired in India, was recruited.

This patient was heard of some months after: the cure has been permanent.

URINARY ABSCESS AND FISTULA.

The following case of urinary abscess in the perineum shows the advantage of opening the abscess early, and the bad result of

leaving a catheter in the urethra for weeks, only changing it occasionally:—

C. K., aged 40 years, 14 years ago had an abscess in the perineum, depending upon stricture; this abscess was opened by an eminent surgeon, who placed a gum-elastic catheter in his urethra, and insisted upon his wearing one for three weeks: for 14 months this patient was under treatment, having a small-sized bougie passed occasionally. The patient got wearied of this treatment, and applied to another surgeon, who passed a large-sized instrument for him: after three applications, a few days elapsing between each introduction, the fistula was healed, and the patient perfectly recovered.

Having enjoyed immunity for 14 years, he was again attacked with urinary abscess in the perineum; this abscess was opened freely, and when all inflammation had subsided, a metallic bougie was introduced, and its introduction repeated once in four or five days; very soon number 12 passed in freely, and the fistula was completely healed in less than two months: whereas, on the plan of treatment, by leaving a catheter in the urethra, no progress towards cure was made in 15 months, nor till the plan of passing large instruments, at pretty long intervals, was resorted to.

Stricture of Urethra; Fistula; Cured by Dilatation; the Fistula healed without special treatment.—Patrick Kinahan, aged 40, has had strictures for many years. Eleven years ago an abscess formed in the perineum; since then he has been going from one hospital to another. A few days since an abscess was opened in the perineum, and another opened, by sloughing, in the scrotum.

On his admission, the smallest-sized gum-elastic bougie could not be introduced into the bladder. The following day a very small instrument was passed—it was the first that was got through the stricture for the last eleven years; this was replaced by a gum-elastic catheter, number two, which was secured in the urethra, but the patient withdrew it in the evening. Much good, however, was effected, for in two days' time number five, six, and seven, metallic bougies were passed, in rapid succession, without difficulty or causing any effusion of blood; nor was this dilatation followed by rigors. The patient expressed his thanks, and said he was better than he has been for the last 12 years. He was under treatment in the hospital for 18 days; when dismissed, number 10 could be passed with great ease.

The fistulæ were perfectly healed; they required no special treatment, but closed gradually, as the strictures yielded.

PYEMIA.

Arthritis, purulent deposits, and other symptoms of pyemia are occasionally met with during the progress and treatment of cases of stricture. The following is an instance of purulent deposits having taken place, the patient recovered:—

Edward Close, aged 35, has had strictures for the last six years. The stricture will not admit even the smallest sized instrument. Patient was ordered a warm bath, strict confinement to bed, and a small blister to the perineum. Being treated for some days, on the sixth a conical gum elastic bougie was got through into the bladder. He had severe rigors in the evening, and sweated profusely at night. On the 17th day of treatment a large abscess quickly formed on the left forearm, and was laid open; a fortnight after another large abscess formed on the left buttock; this was also opened. By means of bark and wine the patient's strength was recruited; no more abscesses formed; the strictures yielded to dilatation, and the patient was dismissed, cured, having been in the hospital under treatment for 10 weeks.

CAUSTIC.

The plan of treating strictures by caustic, so much practised by J. Hunter, Sir E. Home, and their followers, is now seldom resorted to. The following is a favourable example of its use:—

Permanent Stricture of the Urethra cured by Caustic and Dilatation, Dec. 1836.—John Pearson, aged 45, a shoemaker, for the last three years has suffered under aggravated symptoms of stricture, the water coming by drops or in a small twisted or forked stream. He has to rise three, four, or five times a night; had gonorrhea but once, and that eight years ago; never used injections; for years had retention of urine which was relieved by the catheter. A firm stricture was found, $5\frac{1}{2}$ inches from orifice, which was quite impassible. Being under treatment for 14 days, and no progress made, it was determined to use the bougie, armed with nitrate of silver, as recommended by J. Hunter. The application gave some pain at the time, which afterwards increased in severity; some blood followed the application. He had a sever rigor in the evening, and passed a restless night; felt as if a burning coal was

in the perineum; on the third day after, the stream of water was fuller than it had been for a length of time. The after treatment consisted in passing bougies every second or third day. He was dismissed, apparently quite cured, being under treatment for 40 days. Four years after being dismissed from the hospital this patient was seen. He reported himself to be free from all symptoms of stricture ever since, and confided to us that he had made an advantageous marriage with a rich widow.

INTERNAL INCISION.

Stricture of long standing relieved by Dilatation, cured by Internal Incision by means of a sheathed knife.—Edward B., Esq., aged 40. He laboured under strictures for the last 15 years, brought on by gonorrhea and the too frequent introduction of instruments; his attendant insisting upon passing a bougie daily with the intention of curing a gleet. When he first applied to me he was in great distress, having to pass water every five minutes, which he could make only by drops. He resided in London, but having to travel to Dublin, he managed to accomplish the journey by having a urinal with him. His general health was much impaired; alteratives and bitters were ordered; the smallest sized catheter could not be introduced, but by patient dilatation of the anterior part of the urethra, on the 11th day of treatment, the smallest sized silver catheter was passed into the bladder. The treatment went on with various success, sometimes getting No. 5 and No. 6 into the bladder, and this sometimes followed by irritability, and almost by retention of urine, always relieved by a warm bath. He returned to London, having been under the “dilatatory” treatment for six months; he was able to retain his urine and pass it in a good stream. No. 6 could be passed into the bladder with great ease. He resolved, however, to place himself under the care of Liston, who, he writes “having passed No. 5, determined to cut the stricture longitudinally. Immediately after the division of the stricture, Nos. 5 and 6 were passed in rapid succession. I suffered severely from fever, and was delirious for several hours. My next visit proved the inefficacy (at least for the present) of this cutting catheter, as No. 5 alone would pass. No. 6, after much exertion, became wedged in the stricture; some advantage, however, has been gained.” The relief obtained was permanent, as the stricture did not relapse during the two or three years the patient lived. He died of pulmonary consumption.

RETENTION OF URINE.

Retention of Urine from Stricture.—During the last 35 or 40 years a great number of cases of retention of urine have been brought into the Meath Hospital, and in not a single instance was it found necessary to resort to tapping the bladder.

The usual practice is to place the patient in a warm bath; in some cases to apply leeches to, or to cup, the perineum; to give from 10 to 30 drops of tincture of muriate of iron, sometimes combined with laudanum, every ten minutes; a grain of ipecacuanha repeated every hour, has, in some cases, been very successful: when these means have been tried for some time, the catheter, or bougie, is used cautiously, some of the patients being put under the influence of chloroform.

In the following cases it was found necessary to divide the stricture with Stafford's lancetted stilette. In one of our cases there was extravasation of urine. We were not so fortunate as Mr. Stafford, who informs us that in 40 cases of permanent stricture he did not meet with a single failure. "In no instance," he says, "has there been a false passage made, nor has the cutting through the contracted part caused pain, hemorrhage, or inflammation":—

Stricture of Urethra; Retention of Urine; Cured by Cutting through it with Stafford's lancetted stilette. July, 1849.—Thomas Hogan, aged 23, has had strictures for the last four years; has never had gonorrhea, nor can he account for their occurrence. Patient was admitted into the Meath Hospital for retention of urine. On former similar attacks he was relieved by warm baths, tincture of muriate of iron, &c., but on this occasion all failed, even the smallest sized instruments were arrested eight inches from the orifice. There was no alternative but to tap the bladder, cut into the urethra behind the stricture, or, to divide the stricture by an internal section; the latter means was preferred, and the stricture was divided by Stafford's lancetted stilette; number seven gum-elastic catheter was secured in the urethra; on the third day (48 hours after the operation) the catheter, unfortunately, slipped out of the urethra; the urine, passing over the tender surface, caused a severe rigor to set in, which was followed by profuse sweating. No extravasation or other unpleasant result followed. The patient was dismissed, cured, nine days after his admission. He went to his work, and has been seen since. He passes his water in a full stream.

Stricture of Urethra; Retention of Urine; Internal Incision by means of Stafford's lancetted stilette; Extravasation of Urine; Patient's life saved by free external incisions.—James Quin, aged 50, has laboured under strictures for 30 years; was brought into the hospital, March 26th, suffering under retention of urine: for the last 12 hours has not been able to discharge a drop, all attempts previously made to introduce a catheter having failed. On his admission into the hospital the man was put into a warm bath, and tincture of muriate of iron, ten drops every ten minutes, was given, but unsuccessfully. The obstruction was situated four inches from the orifice; this was cut through with Stafford's lancetted stilette, and a silver catheter was passed into the bladder; a large collection of water evacuated; the instrument was secured in the urethra, but, unfortunately, on the third day the catheter slipped out of the urethra, and on the sixth day there was extravasation of urine in the perineum, scrotum, and extending above the pubes and groins; an extensive incision was made in the perineum, laying bare the urethra, and two incisions were made, one on each side of the abdomen, through the integuments. This patient went on favourably. On the 14th day after the incisions were made, a gum-elastic catheter, number six, was introduced, and secured in the urethra; in three days this was replaced by a larger one, and in two months from his admission Quin was dismissed, cured.

Retention of Urine caused by Stricture of the Urethra; Internal Section by Stafford's lancetted stilette; Rheumatic Inflammation of shoulder and side; Cure.—Patrick Garvey, aged 26, labourer, strictures of two years' standing; had retention on one occasion before; has not passed water for the last 30 hours; an attempt was made by a doctor in his own neighbourhood which was unsuccessful. Warm baths, tincture of muriate of iron in 20 drop doses, &c., &c., being tried for three hours, from the time of his admission into the hospital, and no bougie or catheter being got through the stricture, it was determined to try Stafford's lancetted stilette. The stricture being divided, a silver catheter was introduced into the bladder, and the urine drawn off. The instrument was secured in the urethra, and 25 drops of laudanum were given. The instrument had to be withdrawn in 24 hours in consequence of the great scalding it caused. The third day had rigors followed by fever; fourth day, severe rheumatic inflammation in the right shoulder;

leeches and poultices were applied, and Dover's powder and carbonate of ammonia, of each three grains, were given every fourth hour. Eighth day, severe pleurodyne, relieved by cupping, &c., &c.; he passes his water freely; in a few days he was dismissed to return to his work, quite relieved both of the strictures and of the rheumatism.

The great advantage of Stafford's lancetted stilette was manifest in this case. Where the patient is affected with purpura, and likely to bleed freely from any wound, it would be a very hazardous experiment to tap the bladder.

John M'Caffrey, aged 50, unmarried, was admitted into the Meath hospital November 22, 1852, suffering intensely from retention of urine; violent paroxysms of straining came on every few minutes, attended with great suffering, but no discharge of urine. Pulse quick; skin hot; body and limbs trembling. He served for 15 years as a soldier in the East Indies, and led a dissipated life; had gonorrhea, chancres, and secondary syphilitic eruption, &c.; had also purpura hemorrhagica, and bleeding from gums, &c.; has suffered from strictures for upwards of 10 years; no instrument has ever been passed through the stricture. The patient is very intemperate, and is subject to intermitting fever; the spleen is very considerably enlarged; the gums are spongy and there are several livid spots on his skin. The usual means having failed, it is resolved to cut through the stricture with Stafford's instrument. A full sized gum-elastic catheter was then passed and left in the urethra. In 13 days he was dismissed, apparently cured.

PERINEAL SECTION.

Having witnessed the best results from Mr. Syme's perineal section in several cases, I bring forward one instance of the most obstinately relapsing stricture I remember to have ever met with, that of James Short. The others are examples of urinary abscess and fistula, treated, as such cases have always been, by free incision in the perineum, and cutting through the stricture.

Frequently relapsing Stricture cured by Perineal Section.—James Short, aged 60, a groom, has laboured under strictures of the urethra for 30 years. He has got relief from time to time by the process of dilatation, and on one occasion it was found necessary to perforate the stricture by means of a "trocar stilette" to relieve a

retention of urine. He has attended several hospitals, and having failed in getting permanent relief, he readily acceded to the proposal to submit to the perineal section. The stricture being dilated, so as to permit a No. 2 silver catheter to enter the bladder, August 18th, 1856, the grooved staff was introduced and cut upon, as directed by Mr. Syme. On its withdrawal a gum-elastic catheter was passed and left in the urethra. The patient suffered severely from fever, attended with delirium, for a few days after the operation. In three weeks after the operation he was dismissed, cured; No. 9 silver catheter could be freely passed. He lived for a year without having had any relapse of the stricture. He died of bronchitis, September, 1857.

Strictures of Long Standing; Urinary Abscess; Opening at Umbilicus, and another in Perineo; Stricture Perforated with Trocar Stilette; and afterwards Divided by Incision from without; Cure.—Bernard Coffee, aged 49, a clerk, was brought to the Meath Hospital in a collapsed, and apparently dying state, March 16th, 1836.

It seems that he has laboured under the symptoms of strictures for about 14 years; had never submitted to regular treatment. An abscess formed at the umbilicus, which broke after five days, and discharged a quantity of pus mixed with urine, which discharge still continues; all his urine comes through this opening, and none through the urethra. A probe passed down to its very eye took a direction towards the bladder. There is a circumscribed abscess in the perineum, which commenced to form a week ago. The patient's strength being rallied by wine, camphor, and ammonia, the abscess in the perineum was freely opened, and a quantity of very fetid matter evacuated. An attempt was made to pass a small bougie, which met an obstruction at first, half-an-inch from the orifice of the urethra, but was finally arrested at the commencement of the membranous portion of the urethra at the bulb.

Thirteen years ago, this man had a complete retention of urine, which was relieved by passing the catheter.

Having been for 22 days under treatment, and his general state improved, the stricture being still impassable, it was perforated by a trocar stilette, introduced through a curved canula—a small catheter was introduced before this—all the urine passed through the opening at the umbilicus.

Shortly after this he was dismissed, with directions to attend the

dispensary, having been two months in the hospital. On the 7th of July, Coffee returned to the hospital, in the following state:—He had an acute abscess in the right side of the scrotum, a fistula in perineo, and at the umbilicus. The abscess was opened the following day. He soon after left the hospital, and was readmitted October 7th, the stricture being impassable. He had also fistula at the umbilicus, and perineum discharging urine. The perineum was converted into a hard cartilaginous mass. It was determined to cut through this mass, and divide the stricture. A sound was passed, and fortunately got into the bladder; having laid open the urethra, a gum-elastic catheter was left in the passage. 8th.—The catheter was retained for only a few hours; patient suffered from sickness of the stomach after the operation; he had a severe rigor in the evening; he is feverish this morning; the wound looks well.

10th.—Although the catheter was not introduced since the 7th, yet he passes his water through the urethra in a full stream, and none comes through the wound.

October 29th.—Number five gum-elastic catheter secured in the urethra.

31st.—Catheter caused a good deal of irritation, and purulent discharge from the urethra.

January 2nd, '37.—By means of occasional dilatation, number 10 can be easily passed. The fistulæ in the perineum and at the umbilicus, are completely healed.

In May, 1845, this patient came to the hospital to have an instrument passed; number 9 went in freely; he is in excellent health, fat and strong; he is earning his livelihood as an attorney's clerk.

Stricture of Urethra; Fistula in Perineo; External Perineal Section; Cure. June 23rd, 1852.—Joseph Goff, aged 47. for some years past has had strictures, the result of gonorrhea treated by injections; 11 months ago suffered from abscess in the perineum, and has urinary fistula ever since. There is considerable enlargement of the scrotum; no instrument can be made to pass through the stricture. Having been for some time in the hospital under the treatment, and no progress being made, it was determined to cut down upon, and through, the stricture. To effect this, a sound was introduced down to the stricture, the fore-finger of the left hand being introduced into the rectum, the point of the sound was cut down upon, the stricture divided, and the

urethra opened behind the stricture; a gum-elastic catheter number 10 was passed into the bladder.

This patient was dismissed, cured, having been under treatment for less than a fortnight.

Two years and a-half after, he was seen in the enjoyment of good health, and quite free from stricture, fistulæ, &c.

John Underwood, aged 48, a bootmaker; has had strictures for 17 years; has been in the hospital on several occasions; admitted April 2, 1839, having a fistula in the perineum, and considerable swelling of the scrotum and penis. The patient's state was so improved by gradual dilatation, and the application of lotions to the scrotum, that he left the hospital in a few days. He struggled on for seven years. He was admitted again, November, 1846, with a considerable aggravation of all his symptoms. His state was much improved by free incision into the perineum, and division of the stricture, and he left the hospital after six months' treatment very much benefited. In August, 1847, he was again taken in, having besides the fistula in the perineum, one above the pubes, and brawny hardness of the scrotum and perineum. On the 9th, the perineal section was made, and the urethra opened behind the stricture, a gum-elastic catheter was introduced into the bladder and secured there. The plan generally practised by the late Professor Porter was adopted in this case with great advantage. The catheter was first passed from the wound into the bladder, and then the handle part, the ivory top being removed, was pushed from the wound forwards through the orifice. The greater part of the scrotum had to be divided as well as the perineum, which was almost cartilaginous. The opening of the urethra was made more easily and safely by having introduced the forefinger of the left hand into the rectum.

This man made a good recovery; all the fistulæ were closed up and the strictures dilated, and in four weeks after the operation he was dismissed, cured of a complaint under which he was labouring for 28 years.

Strictures; Abscess; Extravasation of Urine; perfect recovery.—Edward Adams, aged 35, hack-car man, admitted November 18, 1839, supposed to be affected with erysipelas of scrotum, in a state of great prostration of strength, with symptoms of typhoid fever; collapsed countenance; brown tongue; feeble and frequent pulse;

occasional delirium. The perineum was found to be exceedingly hard and tense, evidently the seat of stricture; the penis and scrotum anasarcous; his urine came in small quantities giving him exquisite agony when passing. The perineum and scrotum were laid freely open. Wine, porter, &c., ordered. For last six years has had strictures and retention three times within that period, to relieve which the catheter was passed. He never submitted to regular treatment. In 34 days he was dismissed, a large sized catheter being passed into his bladder. He was directed to attend the dispensary to have instruments passed occasionally; this he neglected to do. In six weeks he was readmitted into the hospital, the stricture having relapsed, so as to resist the passing in of the smallest bougie. February 7, 1840, the stricture was perforated with a trocar stilette, and No. 5 gum-elastic catheter was immediately introduced into the bladder and left in the urethra. In a few days No. 11 was passed, and he was dismissed, cured.

This man has been frequently seen within the last 23 years, during which time he has been free from relapse or any symptom of stricture.

ART. XI.—*Cases in Midwifery*. By WILLIAM J. COX, Medical Officer to the Sodbury Union, Gloucestershire.

FACE PRESENTATION.

I was recently summoned to a woman under the care of an ignorant country midwife, who had been, I was informed, two days in labour of her sixth child. The midwife told me that the "child's behind" was presenting, and that the pains, which had been very severe for eight hours, in the second stage of labour, were rapidly declining in strength and frequency, and that there was now no advance whatever. On examination I found what I at first supposed to be indeed the breech, masked by a large presenting tumour from long-continued pressure; but continued careful manipulation enabled me to correct this false impression. I detected the nasal bridge lying obliquely across the pelvis, and then the mouth, which orifice the woman in attendance had mistaken for the female genital fissure, earlier in the labour. The *chin* was directed backward to the *left sacro-iliac synchondrosis*, tightly wedged in the pelvis; the *left* side

of the face, consequently, presenting. Having made out the position at last to my satisfaction, I turned my attention to the condition of the patient, who presented the incipient symptoms of powerless labour, so graphically described by Dr. Churchill. Restlessness, dry brown tongue, pulse 120, tendency to dark exhaustive vomiting, olive-coloured vaginal discharge. I determined, therefore, to deliver immediately, in which I at last succeeded, after some trouble and difficulty, by the vectis, as it proved impossible to pass the instrument in any direction except posteriorly, and then gliding it gradually forward. The forceps was inadmissible for this reason. The child was born living, although a hideous object for 24 hours after its birth. The mother made a good recovery.

The most important practical point connected with this case is the difficulty of diagnosis which it presented. This was, of course, owing to the great swelling which had taken place. In such cases the detection of the nose and mouth (especially the latter, with its firm line of gums) is the chief point of diagnosis. Great caution and tenderness are requisite in making the examination, otherwise serious injury will probably result to the infant.

This is the only case of face-presentation I ever saw *requiring* instrumental delivery. Two cases, occurring previously in my practice at distant intervals, terminated easily with the natural efforts, the duration of the labour not being influenced by the mal-position. In both these cases, the *chin* was towards the *right* sacro-iliac synchondrosis, and the *right* side of the face anterior. In such presentations the non-necessity of interference must be obvious, and has long since been established by Boer, Murphy, Churchill, and other authorities.

FACE TO PUBES PRESENTATION.

Mrs. M., aged 46, in labour of her eighth child, requested my assistance, in consequence of the non-advance of the head after many hours of severe suffering. The midwife had already foolishly told her "there was no help but to kill the child, it being fixed." On examination, I found the forehead behind the pubes, imperfectly filling the hollow, the anterior fontanelle very distinct, and the head entirely arrested. The pains were regular and strong. I made several unsuccessful attempts, in the intervals of the pains, to press back the head with the fingers. I then cautiously introduced the vectis from the pubic side, and endeavoured to rotate the head towards the sacral side of the pelvis. After ten or twelve minutes'

gradual and strenuous exertion, taking every possible care not to injure the soft parts of the mother, I had the gratification of finding the head was beginning to advance with the pains. The vectis was then withdrawn, and the case left to the natural powers. A living child was born half an hour afterwards. The mother did perfectly well.

PUERPERAL CONVULSIONS.

CASE I.—E. R., a stout Irishwoman, 19 years of age, primipara, in her eighth month. Found her low and desponding, complaining of severe paroxysms of shooting pain through the temples, dimness of vision, with fits of transient blindness; eyes bright; tongue loaded; pulse 80, full and labouring; urine scanty and highly albuminous. Advised bleeding, which she declined. Gave a drastic purgative, and a spirit lotion to the head; to be kept quiet in a darkened room. A violent thunder-storm occurred the next day. During its continuance, I was summoned to my patient's residence, and found her in the midst of a severe epileptoid seizure. Was told she had had two before my arrival. The os uteri was closed, and there was no sign of labour. I bled her immediately to 20 ounces; she seemed better after this, but the seizures came on every quarter-hour, and she remained comatose during the intervals. After waiting two hours, I again bled her to 16 ounces; had the scalp shaved, ice applied, and gave an enema of turpentine. The latter speedily unloaded the bowels, the motions being nearly black, and indescribably fetid. Her condition, however, did not improve; and after six hours' watching, I returned home, deeming the case hopeless. In the middle of the night I was again summoned to her bedside, and told she was in labour. The fits had gradually subsided, and finally ceased three hours after my departure; but she remained in deep stupor, moaning at regular intervals. I found the os fully dilated, the waters discharged, and the head deeply sunk in the pelvis; but the pains very weak and inefficient. After some consideration, I judged it best to deliver by the short forceps, which I accordingly did, without any difficulty. Her respiration now lost its stertor, and she lay perfectly quiet, but as yet quite unconscious. Her pulse was most alarming=160. On visiting her early next morning, I found she had become conscious, waking as from sleep, about four hours after delivery. She had no recollection of anything that had happened during the last 30 hours, nor any idea of having given birth to a child. The fetus had been dead for some days. Her recovery was rapid and complete.

CASE II.—Summoned to meet a friend in consultation on the case of J. R., aged 34, in labour of her fourth child. Found her in a state of stupor, from which, however, she could be roused at intervals, so far as to evidence some consciousness to externals. Pulse 90, full and labouring; tongue loaded. A vaginal examination showed labour to be far advanced; the head on the perineum; but the progress very slow. The patient showed her consciousness of the uterine contractions by turning and moaning. My friend informed me that she had showed no tendency to a seizure until in full labour, and the os more than half dilated, when she suddenly complained of a burning pain in the temples, declared the "room was full of lights," and fell into a convulsion. Since then the fits occurred every 20 minutes, and increased in violence. He had already bled her to 20 ounces, evacuated the bowels, and applied ice to the scalp. We now took away 16 ounces more blood, and waited an hour, during which time she had two seizures of rather less severity. At the end of that time we found no progress in the labour, and the vagina getting dry and hot. We now resolved to deliver with the forceps, which I did without any force. The introduction of the sacral blade, however, induced so violent a seizure, that I was quite appalled, expecting momentarily her death. But she had no farther convulsion, and woke up about six hours afterwards perfectly conscious, but with no remembrance of her labour. Severe headache, intolerance of light, &c., which remained, soon passed away. The child, a fine boy, was dead. The patient afterwards informed my friend that when a child she had been subject to fits (epilepsy?) which had ceased at puberty. She married at 20, and when pregnant with her first child, suffered much from headache and pain in the loins, for which she was bled. After the delivery of the (first) child she lost consciousness for some time, and her midwife told her she had "made strange faces." Had had no fits during her subsequent pregnancies, but during the last suffered much from mental anxiety.

CASE III.—E. O., aged 19, a very robust, plethoric, single woman, consulted me a short time since. She complained of darting pains in the head, flashes of light before the eyes, loss of memory, vertigo, nausea, and deep-seated lumbar pain. She confessed that she was in the seventh month of pregnancy, and was very low and desponding, dreading the anger of her parents, when her disgrace should be known. I advised bleeding, which she declined. Her

urine was scanty and albuminous. I gave her purgatives, recommended quietude and low diet, and acquainted her friends with her situation. Five weeks afterwards I was sent for in haste, and found her in the midst of a fearful paroxysm of the worst type. I was told that, after a restless night, she vomited some dark matter, uttered a loud cry, and was directly unconscious. As soon as the convulsion had passed, I bled her largely, purged, gave enemata, &c.; but she got sensibly worse, in spite of all treatment, and it soon became clear that death was inevitable. There was occasionally a feeble attempt at a labour-pain, but the mouth of the womb would not admit the tip of the finger. She sank, and died in the evening.

CASE IV.—Consulted during the Summer of last year, by Mrs. R., a farmer's wife, primipara, aged 32; a very fine looking woman, stout, plethoric, and florid; she was in her sixth month. She told me that previous to the first appearance of the menses (in her sixteenth year), she had had occasional seizures, originally induced by fright; but that these had ceased shortly after that epoch. Shortly after her marriage, in her third month of pregnancy, she began to suffer from dull headache and lumbar pain, which gradually got worse as time advanced. She now had obtuse and constant pain at the vertex and forehead; giddiness; occasional confusion of thought; ringing noises in the ears; and severe aching of the back. Her ankles were somewhat œdematous, and her legs hot and tender. Her urine was scanty, opalescent, dark, and albuminous. Her pulse was rather full, labouring, and infrequent. There was great drowsiness, and mental despondency, without any external cause. I bled her; prescribed calomel and jalap, and the strict observance of a low regimen; she rapidly improved. The albumen nearly disappeared from the urine, and the head symptoms improved so much that my attendance was discontinued. Three weeks afterwards I was again suddenly summoned, she had just had a genuine convulsion, with great distortion of the countenance. I again bled her and applied cold to the head. After eight seizures, gradually decreasing in severity, she rallied; labour came on, and terminated naturally in six hours in the birth of a dead seven months' child. The recovery of the mother was rapid and complete; is now again pregnant, without any bad symptoms.

CASE V.—I was called in consultation three years since on a case of convulsions during labour. The patient was a short, stout,

resolute primiparous Irishwoman. The fits were most severe, and had been so for some hours, ever since the commencement of labour. She had already been bled to 50 ounces, with little abatement of the violence of the attacks, or relief of the dangerous comatose condition of the intervals; the bowels also had been freely purged; the os was dilated to the size of a crown-piece, and the head presented *with the fore-arm placed across the back of the head*.* It was now debated whether to deliver by the forceps or version, and finally decided in favour of the latter operation. After great difficulty I succeeded in delivering a still-born child. The pelvis was roomy, but the perineum rigid. Previous to operating I, of course, introduced the catheter and drew off some urine; which was afterwards found to be highly albuminous. The patient had a horrible seizure during the version, but none after the delivery. She regained consciousness in two hours; and recovered slowly, but satisfactorily.

RUPTURE OF THE UTERUS.

CASE I.—T. T., aged 37, in labour of her sixth child. Membranes ruptured at the beginning of the labour, and an enormous quantity of the waters discharged. Pains continued regularly, but rather weak in character, for about three hours, when they ceased, and a severe continuous pain took their place; after which no advance was made in the labour. The patient soon became restless and anxious, and I was sent for. I perceived at once, from the expression of the features, that some perilous casualty had occurred; and this opinion was strengthened by the state of the pulse, which was feeble, tremulous, and, at least, 150. She complained of a severe fixed pain in the pelvis, but could not date this from any labour-pain of extra severity. Indeed, she described the pains as having been feeble from the first—very different to her former labours. On examination no presentation could be reached; the os was but little dilated; there was hemorrhage from the vagina. Under these distressing circumstances, what could be done? Interference appeared impossible. I felt satisfied there was a laceration of the uterus. The poor woman, as long as she was conscious, expressed herself resigned to her fate, which she felt to

* So far as I know, only one case of this singular compound presentation has been recorded. See Dr. Simpson's *Obstetric Works*, Vol. i, p. 488.

be inevitable. She died in collapse two hours afterwards. To my extreme regret, the friends would not consent to an autopsy.

CASE II.—Mrs. C., aged 27, seven months pregnant of her first child, accidentally fell down a steep flight of stairs, and received a very severe shock. On recovering partially from this, she complained of excruciating pain in the abdomen; and vomiting, at first merely of the ingesta, but afterwards of green, and finally of “coffee-grounds” matter. On visiting her 20 hours after the accident, I found her already *in extremis*, with fluttering pulse, sighing respiration, cold extremities, &c. There was no external hemorrhage. The head of the child could be readily felt through the presenting membranes. She soon afterwards died. On opening the abdomen 12 hours after death, blood, to the amount of nearly two quarts, was found effused into the peritoneal sac; the uterus was ruptured at its fundus, to the extent of three inches; the edges of the wound being jagged and fully an inch asunder; the placenta was exposed by the laceration, which it entirely covered; the tissue of the uterine walls for some distance around the torn part was exceedingly soft, and almost as thin as card-board; it emitted an offensive odour, and was apparently in a gangrenous state. The child was a fully developed male. The mother had been the subject of syphilis previous to her marriage.

PUERPERAL FEVER, WITH SLOUGHING OF THE VULVA AND VAGINA.

Two years since, an apparently healthy primipara, aged 19, residing in a healthy village, and well nourished, was delivered by me of a living male child, after a perfectly natural labour of 16 hours' duration; 12 of which were occupied by the first stage. Neither the vagina nor perineum were unduly rigid. Four days after delivery she was seized with diarrhea and slight abdominal pain. The next day nausea, anxiety, and general prostration set in. The vaginal discharge became horribly offensive; and, on examination, an œdematous redness was observed in the labia. This rapidly extended, and in two days sloughs formed on the interior of the vulva and vagina, showing no disposition to become limited by the inflammatory process. The constitutional symptoms kept pace with the local mischief; vomiting, delirium, and hopeless collapse supervened, spite of all treatment. No doubt, the gangrene extended to the uterus, for the patient died with all the

symptoms of malignant puerperal fever, complicated with metro-peritonitis. There had been no epidemic of any kind in the neighbourhood for a long time previously. The poor woman had felt great dread of her approaching confinement; and, singular to tell, shortly after her delivery (when no untoward symptom whatever was present), had expressed to her friends a strong presentiment of her rapidly approaching fate.

I shall not tresspass with any lengthy apology for the publication of the foregoing cases. They are a truthful and unpretending record of actual practice, and I trust, may be deemed worthy perusal.

ART. XII.—*On the Natural Constants of the Healthy Urine of Man.* By the REV. SAMUEL HAUGHTON, M.A., F.R.S., Fellow of Trinity College, Dublin, and of the King and Queen's College of Physicians in Ireland.

(Concluded from Vol. xxx., p. 18.)

PART V.—*The Daily Discharge of Sulphuric Acid in Healthy Urine of Man.*

ALTHOUGH I cannot believe that sulphuric acid and chlorine possess a value at all comparable with that of urea, in the excretions of the human body, yet it is necessary to estimate their amount in order to complete my account of the Natural Constants of Human Urine. I strongly suspect that sulphuric acid discharged in urine is the measure of the alum we eat in our bread, rather than of the excretion of the sulphur tissues of the body; and I am quite certain that the chlorine is the measure of the salt we eat with our food; and, consequently, I can attach only a secondary importance to the amount of such substances excreted. I have, however, endeavoured to determine their amount, with as near an approach to accuracy as is possible in such an investigation.

I divide my subjects, as before, into Well-fed and Vegetarian, with the following results:—

TABLE N.—*Discharge of Sulphuric Acid per day (Beef-eaters).*

No.	Sulphuric Acid—SO ₃	Body Weight
1	41·85 grs.	126 lbs.
5	34·20 grs.	189 lbs.
6	40·75 grs.	145 lbs.
Mean	38·93 grs.	153 lbs.

TABLE O.—*Discharge of Sulphuric Acid per day (Vegetarians).*

No.	Sulphuric Acid	Body Weight
2	40·65 grs.	132 lbs.
3	18·88 grs.	146 lbs.
4	23·50 grs.	146 lbs.
5	21·00 grs.	132 lbs.
Mean	26·01 grs.	139 lbs.

From both these tables it appears that there is no proportionate relation between the weight of the body and the excretion of sulphuric acid.

The numbers refer to the same persons as those whose excretions were described in the former parts of this paper.

The total mean discharge of sulphuric acid, taking both tables into account, is **31·55** grs. per day, or at the rate of **0·214** grs. per day per pound of body-weight.

PART VI.—*The Daily Discharge of Chlorine in the Healthy Urine of Man.*

The following tables contain the results of my observations on the discharge of chlorine:—

TABLE P.—*Discharge of Chlorine per day (Beef-eaters).*

No.	Chlorine	Body Weight
1	26·30 grs.	126 lbs.
2	49·52 grs.	126 lbs.
3	12·70 grs.	126 lbs.
4	40·00 grs.	174 lbs.
5	79·20 grs.	189 lbs.
6	36·08 grs.	145 lbs.
1 bis.*	77·63 grs.	126 lbs.
5 bis.*	99·67 grs.	189 lbs.
6 bis.*	133·05 grs.	145 lbs.
Mean	61·57 grs.	149·5 lbs.

The analyses marked (*) were made by weighing the chloride of silver formed by adding nitrate of silver to an acid solution of the urine; and give results much greater than those obtained by Liebig's volumetrical process, which was employed in the earlier experiments. The mean of the results found by the more accurate method of weighing is **103·45** grs. of chlorine per day. The total mean of these, and of Table Q, is **106·56** grs. per day. I have adopted this result in Table T. The corresponding mean per day per pound of body-weight is **0·673** grs.

A comparison of the quantities of chlorine discharged by the same persons, on different days, shows how completely it depends upon accidental circumstances, such as eating salt meat or fresh meat.

TABLE Q.—*Discharge of Chlorine per day (Vegetarians).*

No.	Chlorine	Body Weight
1	115·90 grs.	173 lbs.

The general mean discharge of chlorine, taking both these tables into account, is found to be **67·00** grs. per day; or (since the average

weight of body is 151·9 lbs.) at the rate of 0·452 grs. per day per pound.

PART VII.—*The Daily Discharge of Extractives in the Healthy Urine of Man.*

Under the term extractives are included all the organic compounds of the urine, not urea or uric and hippuric acids; their amount is readily found by subtracting from the total solids of the daily urine, the quantities already determined, with the bases added to the acids. If we know, for each specimen of urine, its urea, uric acid, fixed salts, and total solids, we can find the extractives by subtracting the sum of the first three from the fourth.

In this manner the following tables have been constructed:—

TABLE R.—*Fixed Salts and Extractives Discharged per day by Beef-eaters.*

No.	Fixed Salts	Extractives, &c., &c.	Weight
1	238·00 grs.	113·14 grs.	126 lbs.
2	244·62 grs.	131·94 grs.	126 lbs.
3	234·00 grs.	118·89 grs.	126 lbs.
4	160·00 grs.	96·60 grs.	174 lbs.
5	405·00 grs.	289·91 grs.	189 lbs.
6	297·25 grs.	268·99 grs.	145 lbs.
Mean	263·14 grs.	169·91 grs.	147·7 lbs.

TABLE S.—*Fixed Salts and Extractives Discharged per day by Vegetarians.*

No.	Fixed Salts	Extractives, &c., &c.	Weight
1	384·30 grs.	260·60 grs.	173 lbs.
2	421·20 grs.	236·15 grs.	132 lbs.
3	261·00 grs.	134·81 grs.	146 lbs.
4	249·20 grs.	99·28 grs.	146 lbs.
5	252·30 grs.	177·71 grs.	146 lbs.
Mean	313·60 grs.	181·71 grs.	148·6 lbs.

From the preceding tables it appears that the general average of fixed salts per day is **286·08** grs.; or, at the rate of 1·932 grs. per day per pound of body-weight.

And the discharge of extractives is **175·27** grs. per day; or, at the rate of 1·183 grs. per day per pound of body-weight.

If we now collect together into one table the general average of all the results obtained in the course of this investigation, we find the following:—

TABLE T.—*Natural Daily Constants of the Urine of the Average Man, including both Beef-eaters and Vegetarians.*

Excretion	Per Day	Per Day per Pound
Urine,	52·62 oz.	2·84 drachms.
1. Urea,	493·19 grs.	3·331 grs.
2. Uric Acid, . . .	3·15 grs.	0·021 grs.
3. Phosphoric Acid, .	32·36 grs.	0·218 grs.
4. Sulphuric Acid, .	31·55 grs.	0·214 grs.
5. Chlorine,	106·56 grs.	0·673 grs.
6. Extractives, . . .	175·27 grs.	1·183 grs.
7. Balance (viz., inor- ganic bases), }	115·73 grs.	0·827 grs.
Total Solids, . . .	957·81 grs.	6·467 grs. per lb.

In all the preceding investigations I required the subjects of them to live according to their usual mode, without any deviation from the regular habits of daily life, for a period of from five to seven days before that on which I estimated the constants of their urine. In this way I believe that I have succeeded in obtaining results, the accuracy of which is superior to that of those found by preceding observers. The following summary will show the method of analysis employed.

I. *Urea*.—This was determined by Liebig's volumetrical process, the test solution of nitrate of mercury being estimated by a known weight of pure urea previously prepared.

II. *Uric Acid*.—This, as well as hippuric acid, was found by weighing directly—the decomposing acid being muriatic.

III. *Phosphoric Acid*.—This was always ascertained by direct weighing, as pyrophosphate of magnesia.

IV. *Sulphuric Acid*.—This was also found by direct weighing of the sulphate of barytes formed.

V. *Chlorine*.—I regret much, that in my earlier experiments, I was induced, in estimating chlorine, to employ Liebig's volumetrical process, with nitrate of mercury, which I have not found to be trustworthy. Before I discovered my error several of my subjects of experiment had gone beyond my reach. I have endeavoured, however, to correct my first estimates in the case of three subjects, by direct weighing of the chloride of silver.

VI. *Extractives*.—These were found by subtracting the sum of the urea, uric acid, and fixed salts, from the total solids of the daily urine.

VII. *Total Solids*.—These were estimated by drying a known bulk of urine at 212° F., and weighing the residuum. The results obtained fully justify the future employment of Dr. Golding Bird's formula.

VIII. *Fixed Salts*.—These were ascertained by igniting the preceding residuum, and weighing the ignited ash directly.

I venture to offer the final result of my long investigation, in Table T, as a close approximation to the Constants of Daily Urine in a Healthy Man.

APPENDIX ON THE NUTRITIVE VALUE OF OATMEAL BROTH AND BEEF TEA.

In the former part of this paper (Vol. xxx., pp. 2, 3), and in a paper on Diabetes Mellitus (Vol. xxx., p. 323), I have given the results of experiments made to determine the nutritive value of various kinds of food, estimated as urea or nitrogen. I wish to add here the results of a careful analysis of the *oatmeal broth* and *beef tea* used in the Meath Hospital, as they appear to me to throw some light on the disputed question of the value of beef tea as a diet.

I.—*Oatmeal Broth*.

The oatmeal broth of the Meath Hospital is made by the "rule of the eye and hand;" but a careful weighing of the quantities used, made for me by Mr. A. W. Foot, on several occasions, has led to the following formula:—

"Each quart of the oatmeal broth corresponds to 3 oz. 5 drms. of oatmeal, and a quarter of a pound of beef without bone."

The oatmeal is served to the patients with the broth, but the meat is generally withheld, in mercy to the digestive powers of the patient. Those, however, whose stomachs are in sufficiently good tone to digest well, have discovered the value of the beef as an addition to the broth, and have, in fact, practically made the analysis here detailed, the result of which shows that a quart of the broth possesses less urea-producing power than a quart of porter or a pound of boiled cabbage.* I found that 10·5 oz. fl. of broth weighed 4566 grs.; and that, when evaporated to dryness at 212° F., it left a residuum of 238·8 grs., of which, 50 grs. burned with soda-lime gave me 8·14 grs. of platinum.

Hence I find:—

	1 qt. broth.
1	40 oz. fl. broth.
105	2388 grs. @ 212° F.
5000	814 grs. platinum.
7	1 gr. nitrogen.
28	60 grs. urea.
<hr/>	
	45·33 grs. urea.

II.—*Beef Tea.*

The beef tea of the Meath Hospital is made on the liberal scale of one pound of beef, without bone, to the quart.

Of this tea, 8½ oz. fl. weighed 3694 grs.; and, when evaporated at 212° F., left of solid matter 69·6 grs., of which, 69 grs. burned with soda-lime gave 39·04 grs. of platinum.

From these data we have:—

	1 qt. beef tea.
1	40 oz. fl. beef tea.
85	696 grs. @ 212° F.
6900	3904 grs. platinum.
7	1 gr. nitrogen.
28	60 grs. urea.
<hr/>	
	56·74 grs. urea.

* The piece of meat is eagerly sought by many of the patients, and is familiarly and affectionately called by them "*the mouse*."

This is almost exactly the same value as that found for a quart of Guinness's XX Porter, and for a pound of cabbage or cauliflower boiled; while it is only one half the value of a quart of Dublin milk, and less than one-third of the value of a quart of milk taken from the cow.

ART. XIII.—*Cases in Surgery.* By EDWARD HAMILTON, M.D.,
F.R.C.S.I., Surgeon to Steevens' Hospital.

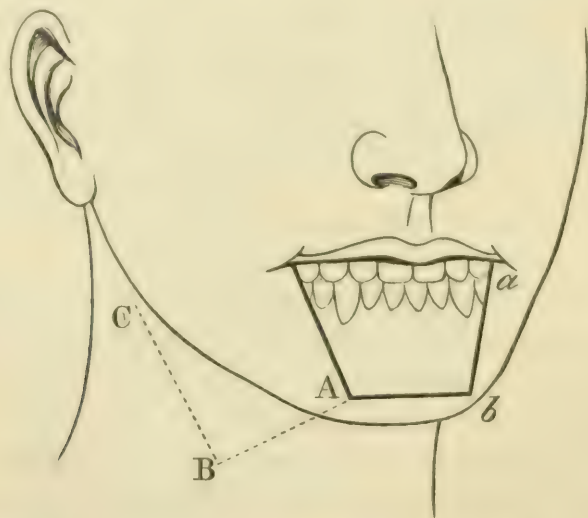
1. CHEILOPLASTIC OPERATIONS. 2. LIGATURE OF BRACHIAL
ARTERY.

CASE I.—*Extensive Destruction of the Lower Lip.*

J. T., aged 62, was admitted to Steevens' Hospital, May 22, 1861, presenting a truly painful and distressing appearance. The lower teeth were completely exposed; saliva, mixed with a foul discharge, flowed freely from his mouth, which he was always obliged to keep covered with his handkerchief; the lower lip was extensively destroyed by cancerous ulceration; the loss of substance extending from the right commissure obliquely toward the chin, and from the left commissure, in a vertical direction, to the base of the jaw, the surface presenting the characteristic features of ulcerated epithelioma and showing a tendency to become fungated, so as to overlap these boundaries, and convey the idea of even still greater destruction. The exposed gum presented a granular appearance; there was no evidence of glandular contamination, nor was his health impaired. He stated that the disease commenced, about twelve months since, with a small hard pimple toward the left angle. This continued gradually increasing in size and hardness for three months, when he applied for medical advice. Some caustic was applied, which caused an extensive slough and apparently eradicated the disease; but after the lapse of six months the lip again became very painful and swollen; he now could feel a "hard lump" inside the lip, and he again applied for relief, but not to the same practitioner. Caustics were applied several times without producing any good effect; the sore increased rapidly in size and hardness, and some months having elapsed in this way, he determined on coming to Dublin. He is not a habitual smoker.

He expressed a strong desire to submit to any operation which would afford him relief from his present distressing condition; the absence of glandular enlargement and constitutional cachexia, induced us to reflect carefully how far the resources of surgical art could be made available. The first and all-important proceeding which demanded our attention was the complete removal of the diseased structure. The second, to devise a plan by which the loss of substance could be supplied, so as to obviate deformity as well as the injurious consequences likely to result from the continual escape of saliva.

Reflecting on the shape of the gap which would result from the complete extirpation of the diseased structures, there appeared but one plan by which it could be satisfactorily filled. Reference to the accompanying wood-cut will explain the proceeding adopted. Incisions were made, free of the diseased tissues, leaving a gap as at *A b a*; incisions were carried into the neck from the point *A*, so as to form a flap, *A B C*, which was freely dissected up. The cheek, at *a b*, was now well detached from the gum and lower jaw; the coronary arteries were tied with fine ligatures, which were cut short at both ends; the flap was now accurately adjusted and maintained in position by a few points of twisted suture, the edge *B A*, being united to *a b*, and *C B* to *A b*. No difficulty was experienced in closing the angle *C B A*, owing to the laxity of the integument of the neck, usual at this period of life, the edges *C B*, and *B A* coming easily in contact.



Warm spirit lotion was applied to the flap, which readily accepted union by the first intention, except a small point of the

upper angle, which subsequently became filled with granulation structure, and, contracting, rendered the new lip perfect. On the third day the parts were supported by a Hainsby's truss, and the needles removed, and after some days he left the hospital quite happy and pleased with the marked improvement in his appearance and condition. A recent account from him records that there has been no return of the disease.

CASE II.—H. K., age 60, was admitted to Steevens' Hospital, July 23, 1862, presenting extensive ulceration of the lower lip, extending from the left commissure to the base of the jaw. In form and appearance the disease was remarkably like the case just related. He states that more than two years ago he observed a small "pimple" at the angle of the mouth on the lower lip, which, having been picked, bled freely, and several attempts were made to cause the removal of the disease by escharotic "plasters" but without any satisfactory result. There was no enlargement of the lymphatic glands.

In this case, too, the knife was freely used, cutting clear of the diseased tissues. A quadrangular flap was raised from the neck, as in the last case, the entire extent of which united fairly by the first intention. The needles and stitches were all removed on the third day, and he left the hospital in a week after the operation.

CASE III.—T. L., aged 55, was admitted to Steevens' Hospital, August 16, 1862, labouring under extensive ulceration of the left labial commissure. The disease occupied, comparatively, a small extent on its external surface, so as to give hopes that it might be removed by a simple V incision, but more careful examination revealed that it occupied a much more extensive area on its deep aspect; so that when incisions were made, well beyond all the limits of the disease, no amount of strain, consistent with the vitality of the parts, could approximate the edges. A square flap was, therefore, quickly dissected from below the chin, and brought forward to close the space, and was easily retained, without any strain, in its position. In the course of an hour after the operation smart bleeding occurred—a ligature having slipped from one of the arteries, and it became necessary to open the wound in order to secure the bleeding vessel. Notwithstanding this, the flap united well, except a small angle above, and the patient left the hospital 14 days after the operation. In this case I was strongly opposed

to operation, as the glands were extensively enlarged, and it was undertaken only at the earnest entreaty of the patient himself, in the hope of obtaining even a temporary respite from his sufferings. The enlargement of the glands had entirely disappeared before he left the hospital.

CASE IV.—T. J., aged 65, admitted Sept. 6, 1862. He stated that the disease commenced some years ago as a wart, which, having been repeatedly removed by ligature, at length spread by ulceration. Within the last three months this has been most rapid, and more painful than epithelioma usually is. The disease now occupies the left labial commissure, extending back as far as the masseter muscle, and for some distance along the border of the lip, beyond the mesial line: downwards it extends to the base of the lower jaw. It is hard at the edges, occupying a larger extent of the mucus surface than the skin. There was no enlargement of lymphatic glands.

He expressed a strong desire to have the disease removed, and incisions were accordingly made, removing the whole of the unhealthy tissues. When the edges of the outer angle were brought together, a considerable space still existed; a narrow, rectangular flap was brought from below the chin; the bleeding-vessels were carefully secured; the ends of the ligatures cut short, and the flaps maintained in position by twisted and interrupted suture. The needles were withdrawn on the day following the operation, the stitches after another day. The union was perfect throughout.

He left the hospital in a week after the operation.

The operation performed in these cases differs a little from that with diverging incisions below the chin, recommended by Mr. Syme, which will answer admirably where the loss of substance presents a V shape, and extends down towards the lower part of the symphysis: but of the cases which have presented themselves at Steevens' Hospital, and they are exceedingly numerous, I have not seen any which have assumed this definite outline, as the disease, without exception, extends to a much greater depth, and involves much more loss of substance on one side than the other, and so far as my experience teaches me, engages the left more extensively than the right side, in a considerable majority of instances.

Every practical Surgeon is aware how frequently this disease returns, and I think we can explain this, in many cases, by the limited nature of the incisions—the golden rule of cutting into the

healthy structure not being sufficiently kept in view. If the surgeon comes to the operation impressed with the idea that by the free use of the knife he will be able to adjust the parts satisfactorily, it affords him much encouragement to act boldly, and not to leave a trace of disease behind.

Two matters claim special attention; one is, carefully to tie each vessel as it bleeds with a fine ligature, cutting the ends short, as the ligatures passing through the wound prevent union, and subsequently cause ulceration in the tender line of adhesion. The second is, not to make the flap too thin in its substance. Care should be taken to dissect up the subcutaneous tissue freely with the skin, as wherever the dark dots of hair follicles are seen, that point is almost sure to lose its vitality.

Aneurism of the Ulnar Artery—failure of treatment by compression—ligature of the brachial artery—recovery.

T. O., about 34 years of age, a labourer, presented himself on the 12th of May at the Dispensary of Steevens' Hospital, complaining of stiffness and pain in the right forearm, increased by exertion or the depending position. Very little alteration was observable in the limb, with the exception of a slight fulness, accompanied by a deep-seated and obscure sense of fluctuation, conveying something of the idea of chronic abscess. No pulsation was perceptible in the enlargement. He was a very strong man, occupied in the laborious pursuits of a porter, and was rather intemperate in his habits. He had club feet.

On the 17th of May he again presented himself at the Hospital. The swelling of the forearm is now distinct and prominent; pulsation is visible, and may be felt over the entire tumour; a well-marked soufflet is distinctly audible; pressure on the brachial artery stops the pulsation and diminishes the tension of the tumour, which gives the characteristic thrill on the sudden removal of the compression. The pulse in the ulnar artery is very feeble, and the radial artery can be traced coursing over the surface of the tumour. The girth of the right forearm exceeds that of the left by one inch and a-half.

The case was manifestly an aneurism of the ulnar artery—examination of the heart afforded distinct evidence of aortic valvular disease—it was resolved to try compression, which was carried out from the 17th of May to the 26th June, on an average

7 to 10 hours daily, combined with digitalis, sulphuric acid, perfect rest, small quantity of fluid, rich solid food, and ice to the tumour. Two or three times in the course of this treatment great hopes were entertained of its success, as the pulsation and soufflet were observed to cease. On one occasion this change was accompanied with a peculiar tingling pain along the fingers and round the elbow, apparently produced by the establishment of collateral blood channels, and when the tumour was examined, neither pulsation nor bruit could be detected, but when we returned from the adjacent ward both had completely reappeared.

On the 4th June he was suddenly seized with most intense pain in the tumour, extending along the forearm to the fingers; this pain lasted for six hours, and was of so severe a character as to render him almost delirious. This pain produced very little change in the forearm, but was attended with a slight increase in size; he was relieved by the local application of the chloroform and aconite liniment.

On the 26th of June it was determined to try the treatment by flexion, and the forearm was bent on the arm and retained in its place by a flannel band. This position diminished the flow of blood through the aneurism, and was retained, with occasional intervals. The patient complained much of it as causing pain and restlessness, and it was laid aside after eight days.

One point of the tumour now appeared discoloured on the inner side, and gave a decided sensation of a very thin wall—the case thus becoming very critical. We had, on the one hand, the disease rapidly becoming diffused, and liable at any moment to entail the loss of the limb, or compromise the patient's life; and, on the other, a very strong presumption that the brachial artery itself was diseased, and in an unfavourable condition for the application of a ligature. On consultation it was decided to be our duty to give him the benefit of the chance which the ligature afforded, and, accordingly, he was left without further treatment, the forearm supported in a flannel roller, until the 12th of July, when I proceeded to tie the brachial artery, at the junction of its middle and lower third, being anxious to leave as much space as possible above the operation, in case amputation should be subsequently demanded.

A free incision was made along the inner edge of the biceps muscle, avoiding the basilic vein. No difficulty was experienced in finding the vessel, which was a little darker in colour than usual, probably owing to the effects of the compression; its pulsa-

tions at first were distinct and vigorous, but after a few seconds' exposure they ceased almost entirely; and it was ascertained, that when the ligature was applied, all pulsation ceased in the tumour, a point about which there was much anxiety, the superficial course of the radial artery raising a presumption that a high bifurcation of the brachial existed. In the steps of the operation I was materially assisted by the kindness of my colleagues, Mr. Colles and Mr. Wilmot.

Cardiac disease having been detected, chloroform was dispensed with; he was placed in bed, the arm supported and enveloped in flannel. No pulsation could be felt in the tumour or either of the arteries of the forearm; the temperature of the limb was considerably reduced. He passed the day of the operation quietly, slept well that night, and on the following day the temperature gradually rose somewhat above that of the other side; pulsation returned in the radial artery, but none in the tumour; the circumference of the arm was diminished $\frac{3}{4}$ of an inch. The wound healed by the first intention, with the exception of the opening for the ligature, which was not detached until the 18th day after the operation, an elastic band having been attached to it on the 16th day, so as to maintain continuous gentle traction. On the 28th day after the operation he left the hospital; and now enjoys perfect use of the limb, which presents very little appearance of enlargement.

ART. XIV.—*On the Treatment of Stricture by the "Immediate Plan."* By RAWDON MACNAMARA, M.R.I.A., Professor of Materia Medica, &c.; Member of Council R.C.S.I.; one of the Surgeons to the Meath Hospital, &c., &c.

WERE I asked to mention the individual disease on which most has been written by ancient and modern surgeons, I should unhesitatingly say—stricture of the urethra. From Hunter's day especially, down to our own, there is scarcely a writer on surgery of any eminence who has not touched in his turn on this widely spread malady; and numerous as the writers have been, nearly as varied has been their plan of treatment. External incision, internal incision, urethrotomy, dilators, caustics, bougies, and catheters, varying in composition and shape, all have been called

into play; each one plan of treatment vaunted as possessing some peculiar advantage over all others—each one in its turn, on its trial, being found deficient in many if not all of its boasted attributes. To write then, with the hope of putting forward anything novel in practice, may well seem a hopeless task; yet still it may be permitted to me the humble, though not less useful, office of contributing my quota of experience on a plan of treatment, 'tis true not of yesterday's date, but still *sub judice*. The plan of treatment to which I would wish to direct my readers' attention is that lately so ably advocated by Mr. Holt, in his work *on the Immediate Treatment of Stricture of the Urethra, by the employment of the Stricture Dilator*, and of which he had previously given us, at varied intervals, some notices in the periodical literature of the day.

Struck, in common with every one of his professional brethren who have had much practical experience in the treatment of strictures of the urethra, with the tedious dilatoriness that attends upon their ordinary routine treatment, by the process of dilatation by the introduction of successively enlarging instruments, Mr. Holt set his mind to work to invent an instrument which would permit of their more rapid dilatation, and, as the result, had constructed for his use, an instrument, difficult enough to describe, or to understand either from description or plate, but the construction and design of which could be understood from one moment's inspection. Were I to describe it, I would say that it somewhat resembles a conical metallic bougie, split down through its entire length, saving a space of about half an inch at its point, with a wire stilette, fastened at this part, running up through its centre to the handle, where there is a small frame work traversed with a screw, by the action of which the blades can be made to overlap and conceal the stilette, so that in this position it seems but a conically-shaped metallic bougie. On unscrewing the screw the blades can be separated, and the stilette comes into view, on which can be passed down a tube, of course with the effect of divaricating the blades, and by so much enlarging the original size of the instrument through its entire length, up to the point where the wire stilette terminates; there are variously sized tubes, for the purpose of adapting the size of the instrument to that of the natural calibre of the urethra. Such would be my method of describing the instrument, but, perhaps, after all it would have been wiser for me, on such a topic, to allow Mr. Holt to speak for himself. His description is as follows:—

"The instrument by which this simple process is accomplished, consists, as is shown in the drawing, of two grooved blades fixed in a divided handle and containing between them a wire welded to their points, and on this wire a tube (which, when introduced between the blades corresponds to the natural calibre of the urethra) is quickly passed, and thus ruptures or splits the obstruction."

This instrument, the idea of which Mr. Holt acknowledges himself to have derived from M. Perréve, resembles one of the two instruments first suggested by this latter gentleman for forcible dilatation of stricture of the urethra. One of his instruments was that which he termed the straight dilator, an instrument composed of two semi-cylindrical tubes united at the vesical extremity by a joint, and terminating at the other extremity, each in a short plate at right angles to the two blades, and traversed by a screw capable of approximating those two handles, as we may term them, to each other. When the two blades were in close proximity the instrument appeared like a straight metallic bougie, and was thus introduced through the stricture, and when it had traversed it the screw was made to work, so as to approximate the two plates, by which motion the blades were separated, on the principle of the instrument known to engineers as the parallel-rule, and, of course, the stricture rent. His other instrument closely resembled Mr. Holt's present one, with, however, this most important difference, that it contained no central stilette, the safe conduct of the dilators being entrusted to grooves with which the two blades are channelled throughout their entire extent; the obvious disadvantage of such an arrangement being that at any moment the dilator might get out of these grooves and inflict serious injury on the walls of the urethra—a source of danger from which Mr. Holt's modification effectually guards us.

Having, I trust, given my readers as clear an insight into the character of Mr. Holt's instrument as mere verbal description, without visual inspection, admits of, I shall proceed to examine how it is to be employed. For its being put at all into application it is evident, in the first instance, that the stricture must be permeable—and, indeed, permeable to the extent at least of allowing the passage of a No. 2 catheter or bougie. The size of the orifice of the meatus is next to be gauged, for a reason that will presently be understood, and then the instrument is to be introduced, care being taken to ascertain that it has reached the

bladder; a dilator corresponding, together with the instrument, in size to the capacity of the meatus is then steadily, but rapidly, to be passed down through the instrument, traversing the stricture, and, as a matter of course, splitting it open; the dilator is then to be withdrawn, and subsequently the instrument, and then a catheter of the full size that can enter the meatus is to be passed on into the bladder, the water drawn off, and the catheter then to be removed, and the patient to get, every third hour, a draught containing two grains of quinine and fifteen minims of laudanum. The next day but one the same sized instrument is to be introduced; but occasionally it so occurs that we may find a difficulty in passing one of that size, and may require to have recourse to one a size smaller; in a few days, however, we can once more readily introduce the larger one, and the patient, to all intents and purposes, so far as operative interference can go, is cured of his stricture. The object with which we gauge the size of the meatus urinarius must now be obvious to every one. Did we not do so, as urethras differ in length so do they in diameter, by using a dilator of greater size than the normal diameter of the urethra, we would not only split the stricture, but also the urethra throughout its entire length, and so seriously complicate our case.

Having thus described Mr. Holt's plan of treatment, it remains now for me to enter into an examination of its advantages and disadvantages, and of the latter I will treat first. Hypothetically it might be fancied that so rude a proceeding as forcibly tearing through a stricture should be attended with a host of dangers—urinary fevers, infiltrations, sloughings, *et hoc genus omne*; and, indeed, Mr. Holt candidly confesses that it was not without many misgivings that he made up his mind to the adoption of the decided measures that now he advocates. And yet, so far as our present experience goes, what has been the result? That in the numerous cases in which this plan of treatment has been adopted by Mr. Holt, no such untoward consequences have resulted. In Mr. Heath's hands, also, the use of the dilator has been crowned with signal success; and in the cases in which it has been employed either by myself or my friends in this city, I have not witnessed anything but the most encouraging results, as shall be evidenced by a record of some of the cases in which, either I myself have used this plan of treatment, or have seen it employed by others.

The first case in which the plan of forcible dilatation, so far as I am aware, was employed in this city, was that of M. E., aged 60.

This man had been repeatedly under treatment for stricture of the urethra, and had been subjected to a false passage. He came into the Meath Hospital in the latter end of April, under Mr. Collis' care; after some days we were able to introduce Mr. Holt's instrument; the stricture was burst on the 2nd May; the patient went out on the 10th of same month, and up to the present moment this individual is able to pass water in a full stream, and to admit of the introduction of a No. 10 catheter; and this without one single untoward symptom from the period of the operation to that of his discharge.

The case of A. B., aged 50, admitted into the Meath Hospital, September 10th, of the present year, was a most interesting one. He had been long subject to stricture, for the relief of which he had been treated by several surgeons on the plan of gradual dilatation; the largest sized instrument, however, that any of them ever succeeded in getting in was No. 4; and on the last occasion on which an effort had been made to introduce an instrument, considerable difficulty was experienced, and a false passage was made, attended, as he states, with the loss of a considerable quantity of blood. After a great deal of trouble I was enabled to get the dilator past the false passage into the bladder, split the stricture, introduce a No. 8 catheter, and empty the bladder; the hemorrhage was of the most trifling character; scarcely a drop of blood having been lost; and as to the pain, he exhibited so little concern, that I thought he had not felt it; and it was only in reply to my question on the subject that he expressed himself as having felt what had been done to him. This operation was performed on the 12th September; that night he had rigors, but of a very slight nature. Next day, and ever since, he was as if he had undergone no operation; and I now experience no difficulty in passing a No. 9 catheter; and, indeed, so far as his stricture is concerned, he might have been discharged, cured, the day but one after Mr. Holt's instrument had been used. He still, however, remains in hospital for the treatment of quite another disease, having no connexion whatsoever with the stricture.

The following case is one of great importance, both as to the gravity of the lesions, and in consequence of the manœuvre employed by which the dilator was introduced into the bladder.

R. T., aged 57, admitted into Meath Hospital in September, suffering from the effects of stricture of the urethra in three different situations, the most anterior being the tensest stricture

it has ever been my lot to feel. This patient was under my friend Mr. Philip Crampton Smyly's care, to whose courtesy I am indebted for liberty to make mention of it on the present occasion; this man had been on three different occasions operated on by different surgeons for the relief of his stricture, by external incision; he now is in a most deplorable state, Mr. Smyly with difficulty passing the smallest sized instrument. On the 17th September Mr. Smyly proceeded to put into operation the "immediate plan," and, after prolonged manipulation, failed in getting the instrument more than through the most anterior of the three strictures, when its further progress was arrested, not by the distant strictures, but by the tension of the anterior stricture, which could be distinctly felt tightly pressing the instrument, and completely impeding its further onward progress. Nor was I more fortunate in my endeavours to introduce it further, and the operation should have been abandoned, had we not, on consultation, agreed to burst this stricture, and then to proceed with the further steps of the operation, which Mr. Smyly accordingly carried into effect—he introduced the stilette, burst completely the anterior stricture, withdrew the stilette, closed again the blades of the dilator, continued its course successfully on into the bladder, again introduced the stilette, burst the other strictures, and, on the withdrawal of the dilator, introduced a No. 8 catheter into the bladder. In this case there was but little hemorrhage, and but very trifling constitutional disturbance. This case made a profound impression on me at the time, as a good example of forcible dilatation *versus* external incision; and the manœuvre by which the resistance of the anterior stricture was overcome and the bladder at last reached, is one that merits attention, consideration, and recollection in similar cases, at the hands of the operating surgeon.

The case of J. H., aged 51, admitted into Meath Hospital 21st September, presented features of peculiar interest. This man presented himself at the Hospital with the view of having an instrument passed; he had been twenty years suffering from stricture of the urethra, had been for the last fifteen years under treatment, and, as all such patients in process of time more or less so become, was perfect master of the features of his own case. He indicated No. 1 as the size that should be employed, as none other had ever been passed for him, and that it would require great dexterity to get even that into his bladder, that he had been for years accustomed to have this size occasionally introduced, and

that subsequently to its introduction, for some time, he felt comparatively comfortable. I proposed to employ in his case the "immediate plan," to which, however, he would not consent; he had been told by one of the first surgeons in Dublin, that a larger size than No. 1 could never be introduced, and he was not inclined to go "past" his opinion. In despair I gave up reasoning with him, brought him into the ward, in which happened to be lying the two patients whose cases I have last recorded, and on whom the operation had been so recently performed, and after some manipulation, succeeded in introducing No. 1 gum elastic catheter, which I directed him to keep for some time in his passage, and left him, having given directions to one of my apprentices to remove it previous to his departure. Next morning this gentleman greatly astonished me by informing me that this patient's scruples had been removed, and that he had returned to the hospital to place himself under my care, with the view of having his stricture treated by the "immediate plan;" and on inquiry it turned out that he had fallen into conversation with the other two patients, and their description of the relief that they had experienced by the operation was so satisfactory that it carried conviction with it, and he at once resolved to have recourse to it in his own case. In my opinion no amount of testimony could speak more trumpet-tongued in favour of Mr. Holt's method, than that afforded by this accidental occurrence. Both patients had experienced different plans of treatment; both had been subjected to the operation of forcible dilatation, and it was their representations that succeeded in convincing him, after all my arguments and persuasions had been urged in vain. This man's stricture was burst on the 24th September, and a No. 8 silver catheter introduced; there was scarcely any hemorrhage, but trifling pain, and no constitutional irritation, so much so that next morning he was up walking about the ward, and seemed rather amused at being asked about rigors, &c. On the 26th I failed in getting in No. 8, but passed No. 7; on the 29th, however, No. 8 passed easily enough, and he was fit to be discharged from Hospital.

This next case, operated on by Mr. P. C. Smyly this day that I write, is of too important a character to be omitted. J. N., aged 50, admitted into Meath Hospital, September 10th, suffering under stricture of twenty years' standing, consequent on a gonorrhea which was cured without the use either of injections or instruments. About twelve months ago an abscess formed immediately behind the

scrotum, which was opened, and ever since more urine passed through the fistulous opening than through the urethra. The scrotum and perineum were dense and swollen. On the 10th September Mr. Smyly succeeded in passing a No. $\frac{1}{2}$ sized gum-elastic catheter, but for several days was unsuccessful in his efforts to introduce a higher number; at last he succeeded in getting a No. 2, and then, after a few days more, a No. 3 catheter into the bladder. On this, 29th September, the dilator was introduced, the stricture split, and a No. 10 gum-elastic catheter introduced with ease into the bladder, the urine drawn off, and the patient, some hours after the operation, expressed himself as being very comfortable, not presenting a single bad symptom. In this case also, the pain of the operation was unimportant, and the hemorrhage of the most trifling character.^a

To continue the further illustration of the subject by recording similar cases would only be attended with an unnecessary lengthening of this paper. As I go on I shall quote one or two other cases, with the view of supporting other points in the treatment of stricture on this plan. I shall now proceed with the consideration of the untoward consequences that might be presumed to attend on this plan of treatment, did not our experience teach us otherwise. These, perhaps, may be reduced under the following heads:—infiltration of urine; hemorrhage; constitutional irritation and pain. Of this latter we shall speak first.

In the present age of chloroform, pain can scarcely be admitted as an argument against any operation. Anesthesia affording us a complete immunity from any of the bad consequences that we might otherwise expect from the *pain* alone of a protracted operation. I am perfectly prepared to admit that serious consequences have but too frequently ensued from long continued pain, or even from its endurance for a short period if it be of an intense character. Still, so far as my experience goes, the pain attending the forcible dilatation of a stricture is so much less than might, *a priori*, be expected, that I confess myself to be averse to the exhibition of chloroform in such cases. I cannot shut my eyes to the fact that (although in Ireland singularly fortunate in our immunity from

^a Oct. 3rd.—Whilst revising proofs this morning I had an opportunity of seeing Mr. Smyly introducing a No. 11 gum-elastic catheter into this man's bladder. The fistula is entirely healed up; all the urine passes *per urethram*, and the induration is rapidly disappearing—so much so as now to require to be sought for to establish its identity with the case described in the text.

such disastrous cases) death has resulted when chloroform has been, even with the greatest skill and caution, administered, and where the fatal result can only be ascribed to its influence. In the majority of these cases the chloroform has been administered to permit of some trifling operation; and, with the knowledge of such facts, I cannot blind myself to the conclusion that (no matter how infinitesimally) it increases the ratio of deaths after operations, and, accordingly, I set my face against its employment, unless in cases when the importance of the operation demands its employment. This, however, in my opinion, is not an operation that, as a general rule, requires its administration; and I should say, that unless in a few exceptional cases, the use of anesthetics is uncalled for. When the patient is more than ordinarily timid; where a great amount of spasm obstructs or altogether prevents the introduction of the dilator, chloroform is called for. But, as I have already stated, the amount of pain attending the forcible dilatation of a stricture is of so trifling a character, and of so transient a nature, that so far from being an argument against this plan of operation, it does not even, in my opinion, justify our subjecting our patient to the extra (infinitesimal though it may be) chance of death resulting, as a consequence, on the use of the chloroform itself.

As to the chance of infiltration of urine, this (I need scarcely remind my readers a most serious complication) has not been found to result in any of the cases with the particulars of which we are as yet acquainted, nor, indeed, do I think it ever likely to be a common, or even occasional, sequence of the operation, and for this reason: the distending force is expended on the seat of the stricture, as, if the directions given be but followed, it is self-evident that the healthy portion of the urethra can not be put on the stretch; but at the seat of the stricture we find a mass of more or less thickened indurated structure encroaching, it is true, on the urethral surface so as to a varying degree interfere with its integrity, but by no means *limited* to that surface, but on the contrary extending itself into the surrounding tissues and converting them also into similarly indurated structure. Now, when the distending force is applied, 'tis true that the urethral portion of this structure, together with its covering mucous membrane, is split, but still a layer more or less dense (depending on the calibre of the distending force, and the extent to which this morbid growth has invaded the investing cellular tissue of the urethra) remains intact, and in virtue of its very composition limits any possible extravasation of urine.

So that what *a priori* might plausibly be urged as one of the disadvantages of this mode of operation, experience teaches us to be one of its greatest advantages; and I believe myself to be but stating a fact when I assert that, in no case up to the present has this most formidable complication ensued in any of the patients operated on in the manner described by Mr. Holt. Can we boast of such a result in the relief of stricture by perineal section? I have at this moment in my mind's eye a young gentleman, heir to a splendid fortune, in whose case death was the result consequent on urinary infiltration involving the destruction of the entire scrotum, leaving the testicles perfectly exposed, resulting from perineal section performed by one of the most skilful and experienced operators of which this city can boast, and that such is no exceptional case, the experience of every surgeon will demonstrate to be a melancholy fact; and why this should be so in one operation and not in the other, the pathological views here enunciated may to a great extent explain. 'Tis true that in one instance a fatal result, due to urinary infiltration, was ascribed to the operation of forcible dilatation; but, in that case, the instrument employed was *not* Mr. Holt's but M. Perréve's, and in this instance I think it more than probable, considering the formation of this gentleman's instrument, that the dilator escaped from the channelled grooves, which it should have traversed, pierced this adventitious structure that constituted the stricture, forming a false passage of a formidable character—in fact the laceration of the urethra was of so extensive a nature as entirely to preclude the idea that it was due alone to *dilatation*. In my opinion it could only have ensued on some mischance of the nature here indicated, or have resulted from gross carelessness and ignorance on the part of the surgeon in not having more accurately adjusted the size of the dilator to that of the urethra; for, when proper attention is paid to this all-important point, the rent can only involve in extent the constricted, and by no means implicate the healthy, portion of the urethra.

In such a method of operating the danger of hemorrhage is not to be overlooked; and, indeed, when we remember the profuse bleeding that ensues on the unfortunate occurrence of a false passage, we might, without due consideration, expect it here also. Yet experience teaches us that, as the result of Mr. Holt's operation, the hemorrhage is of the most trifling character, in many cases being *nil*. Why this marked contrast between forcible dilatation of the urethra and a false passage should exist can be well under-

stood by a just appreciation of the pathological condition of affairs. The false passage in almost every case is, in the first instance, made in the healthy portion of the urethra anterior to the stricture—a highly organized vascular vital structure. In the case of forcible dilatation, the rent occurs in a structure of low organization, imperfectly supplied with vascularity, and what from a consideration of their relative composition might have been theoretically inferred, actually occurs in practice—hemorrhage in false passages—its absence in dilatation being the almost unvarying rule.

The chief peril, however, attendant on this plan of treatment would seem to be the danger of great constitutional irritation, evidenced by rigors—heat, sweatings, and general fever, consequent on this apparently rude method of treating stricture : that such may occur, I am free to confess ; but that they are general sequelæ, I must strenuously deny. In all my cases, it is true, I have anticipated their supervention by the opium and quinine plan of treatment already described. Occasionally I have seen threatening symptoms of this character present themselves, but in no one case were they of any great moment, and they quickly yielded to a perseverance in the use of the medicines already indicated. In one case that occurred in my private practice, and to which I shall have presently more particularly to allude, the rigors were for a few hours of greater intensity, and the perspirations more profuse, in despite of the prophylactic treatment, than I could have wished ; still, in no instance am I aware of their proving persistent in character, or unamenable to treatment.

But may I be permitted to ask my brother surgeons, do they never meet with cases where the most gentle efforts to introduce a catheter are attended with most formidable "stricture fever"? It is precisely for such cases as these that, in my opinion, the treatment by dilatation is pre-eminently suited. By the usual routine treatment of gradually introducing successively enlarging instruments, the system is exposed to repeated attacks of stricture fever. The constitution is but too frequently undermined, and our patients succumb, miserable victims of a disease that, if once and for all it had been boldly grappled with, might have been long since brought to a fortunate termination. By forcible dilatation they may be exposed to the risk of one attack of rigors, &c., but from the very nature of the operation they are ever after exempt from them ; whilst, by the process of gradual dilatation, they are exposed to a series of shocks, with

a result but too frequently fatal. It requires but little argument to prove to which side the balance of advantages inclines.

Having thus considered all the objections that may be fairly alleged against this plan of treating stricture, I may now be permitted to consider its advantages, foremost amongst which must be ranked the rapidity with which the cure is effected. Everyone who has ever treated a stricture on the principle of gradual dilatation must recognize the tediousness, beset with disappointments, inseparable from this plan of treatment ; and any surgeon of experience can readily recall to memory cases where he has conducted his case up to a certain stage, beyond which no art at his command could succeed in introducing a larger sized instrument. In my own experience my further progress has been more frequently arrested on the introduction of a number four than of any other size. A case presents itself to my notice, in which for some days I found it impossible to introduce any sized instrument, at last I succeeded in getting in a number $\frac{1}{2}$, and, *per tædia et labores*, ultimately arrived at the successful introduction of a number four, beyond which no ingenuity of mine could succeed in introducing a larger size. At this moment some half-dozen of such cases recall themselves to my memory ; but the following one, as bearing on the advantages of the "immediate plan" as contrasted with that of gradual dilatation, is worthy of being recorded here :—For years past I have had under my care a gentleman who at an unusually early age contracted a most inveterate stricture of the urethra, about four inches from the orifice. At varying periods he has come to me for relief, and I have had him under treatment for periods of time varying from six weeks to three months, and invariably have been successful enough to dilate it to the extent of introducing a number four, beyond which my ingenuity or skill failed in getting, so much so that latterly on arriving at that number we had come to a tacit understanding that his case had arrived at its *ne plus ultra*. Within the past few weeks he returned under my care : I put fairly before him the advantages and supposed disadvantages attendant on the "immediate plan," and but little persuasion on my part was necessary to induce him to submit himself to the operation, which I performed for him on the 9th of this month, and on the 20th he returned to the country, able to pass for himself a number 11 silver catheter with ease. Here it may be asked, what advantage, exclusive of the enlarged size of the stream of urine that ensues, does the passage of a number 11 present over that of

a number four; why it should be that a patient can with greater facility pass for himself one and not the other? The answer is so self-evident to the surgeon who has been accustomed to the use of instruments that I can scarcely think it deserves consideration at my hands: for its solution, I must only refer him who cannot now solve the problem, to his future experience and a perusal of any elementary treatise that deals with the subject.

In such cases as these, want of success may be attributed to want of dexterity on my part: such charge, however, cannot be alleged against the attending surgeons in the following case, for the outlines of which I am indebted to Mr. Smyly himself:—

Some years past, a gentleman put himself under Mr. Smyly's treatment for bad stricture, and this able surgeon had him under his care until he succeeded in introducing a number five catheter, beyond which number, in spite of all his efforts, he failed in getting. This gentleman returned to London, of which city he was an inhabitant, and placed himself under the late Mr. Liston's care, who also was unsuccessful in his efforts to introduce a larger size than number five; at last he had recourse to Civiale's urethrotome, but with no better success, for a larger sized instrument than number five could he not get past the stricture. In such a case as this Mr. Holt's operation, in my opinion, would seem invaluable.

Again, we come across cases of stricture where on each passing of the instrument a fit of stricture fever supervenes, protracting, to a most tedious extent, the treatment, aggravating the patient's sufferings to a great degree, and seriously imperilling his life. In such a case as this, is it not wiser, once and for all, to put an end to the patient's sufferings, and by one operative interference place him instantaneously in the position which otherwise it must take months of suffering on his part, and of anxious care on that of the surgeon to ensure?

It is quite true that, to enable us at all to attempt this plan of treatment, we must be able to introduce an instrument of No. 2 size, as, if Mr. Holt's instrument be not introducible, it is evident it can not be employed; and so far as my experience goes, a passage of less diameter than that here indicated will not admit of its introduction; yet, on reflection, I cannot admit this as a drawback on its utility as an instrument for treating *stricture*. In many cases of *retention of urine* I confess it may be found of but little or no service; but it is not, so far as I can judge, proposed by Mr. Holt as an universal panacea indiscriminately applicable to

every case. In many cases of retention of urine, after proper manipulation and treatment, it will occupy its proper position; but independent of these I am prepared to admit, that cases will occur where we must have recourse to other operative interference; still I cannot admit even such cases to be valid, insurmountable objections to Mr. Holt's proposed plan of treating *stricture*. The entire gist of the matter lies in these two words—*retention of urine, and stricture*. A wide difference exists between these two phases. Occasionally, but rarely, we are not consulted by patients until their stricture amounts to absolute retention (I am not here speaking of spasmodic retentions of urine); but, in the vast majority of instances, our patients come to us at a period long antecedent to this unfortunate complication, and then it is that the dilator can be made so valuable an adjuvant in the hands of the judicious surgeon, sparing the patient's person the infliction of much long-continued suffering, and saving his purse the extraction of many a guinea.

In advocating this plan of treatment then, the question of the existence of such a disease as an impermeable stricture must occupy as prominent a position as some years back it did in the case of the operation for the relief of stricture, recommended by that distinguished surgeon Mr. Syme. Our experience is decidedly in accordance with that of the illustrious Edinburgh professor. Cases will occasionally present themselves, when we will experience great, very great difficulty, in introducing an instrument, but *where urine can get out, some sized instrument can be gotten in*, if not on the first or second trial, *certainly by perseverance*, especially if that perseverance be aided by the use of warm bath, *rest in bed*, opium, and in extreme cases, essaying the introduction of the instrument, under the influence of chloroform. To surgeons of experience it would seem an impertinence to dwell on the value of these most important adjuvants; to the tyro I would recommend each one and all of them, as of the greatest importance. To dwell on the value of rest in bed, may appear too elementary for these pages, but the value of this apparently unimportant direction has been too often and too closely demonstrated in my own practice, to permit me to pass it over *sub silentio*. The enforcement of a strict regimen will also materially assist our views, and should on no account be deemed unworthy of the surgeon's attention. Occasionally we will derive valuable assistance from the judicious employment of antimonials, but in the class of stricture which we

are now considering, opium will more frequently fulfil the desired indications than those last mentioned remedies; in the robust patient, however, I have found a combination of the two of the most marked service. To illustrate these remarks on the permeability of a stricture that had been considered impermeable, I may mention that, not many years since, I had occasion to employ one of our public vehicles, the driver of which had to pull up at every convenient spot, to make violent but ineffectual efforts to empty his bladder. Struck with the apparent intensity of his sufferings, I made some inquiry into their nature, and was informed that he had that very morning left one of our hospitals, in which he had been a patient for a week, and where every effort had been made to introduce even the smallest sized instrument, but unsuccessfully. I induced him to put himself under my care, and on the third effort was fortunate enough to introduce No. $\frac{1}{2}$; however, his was one of those cases to which I have already alluded as being those in which I could not get beyond No. 4, and at that number I was most reluctantly constrained to acknowledge myself baffled. However, the relief afforded perfectly satisfied him, and to this day he enjoys a fair share of comfort; the next time, however, that he presents himself for treatment I shall not hesitate to subject him to the "immediate treatment."

There is one other subject to which I would wish to direct attention, a topic, in my opinion, not sufficiently enforced in systematic works on the subject, and an error into which the young enthusiastic surgeon is but too apt to slide. I allude to the fundamental grand mistake of *over-catheterization*. Perhaps in no other department of surgery is the *nimia diligentia* more to be deprecated—to no other is the motto *festina lente* more appropriate.

A young surgeon gets under his charge a bad case of stricture, after more or less difficulty he at last succeeds in introducing an instrument, and, flushed with his success, he endeavours to push on the cure with a rapid increase in the size of his instruments, not a day is allowed to elapse, until, to his mortification and chagrin, he finds out that nature will not allow herself to be so hurried, and that his case would have progressed more satisfactorily had he been moderate in his demands on her forbearance. As with the cure of stricture by gradual dilatation, so is it with that by the "immediate plan:" remain content with the first introduction of the large-sized instrument for a couple of days, then cautiously endeavour to introduce it again, and if you experience any great difficulty in

introducing it, at once have recourse to the next smaller size, in two or three days time you will again try, and this time succeed in introducing the full size, and so go on, each time increasing the interval between the introduction of the instruments, until at last the patient is himself able to take his case into his own hands, and by the occasional introduction, say every two or three months, of a full-sized instrument, guards himself against relapse.

This necessity that exists for the occasional introduction of an instrument, will, I doubt not, be urged as a fatal drawback on the value of this operation. Such, however, I am not prepared to admit it, until I am taught the mode of procedure that requires not such treatment, or, at all events, in which its occasional employment is not at least a matter of prudent precaution. Mr. Syme's operation offers the nearest approach to this perfection; but even in it, in my opinion, the occasional introduction of the instrument, at longer or shorter intervals, is not to be neglected; and when we consider the great immunity this precaution affords against relapse, and at what a trifling expense, I should consider the surgeon criminal in the extreme if he fails in impressing this portion of the treatment on his patient's attention; and when we contrast the two operations, so far as *simplicity, facility, rapidity, and immunity from all subsequent complications are concerned*, I think but few will hesitate as to which the preference should be given.

ART. XV.—*On Elongation of the Uvula, and the Secondary Consequences Produced by the Enlargement of this Organ.* By JOLLIFFE TUFNELL, F.R.C.S.I., M.R.I.A., Surgeon to the City of Dublin Hospital, and Examiner in Surgery Royal College of Surgeons in Ireland.

THE merely passing remark commonly made upon elongation of the uvula by systematic writers, and the cursory notice generally bestowed upon the affections of this organ, are such as might lead any practitioner to suppose that this elongation was quite a trivial matter, unattended by any secondary complication—and, in fact, unproductive of any ill effect beyond “slight occasional inconvenience and some tickling cough.” My own experience, however, points to a totally contrary result; and so great, and such continual annoy-

ances have I seen to arise as the consequence of neglecting this condition, both in its acute and chronic state, as to warrant a more full consideration being given to it than it generally receives. I have indeed so frequently been witness of this state of things that the offering of a few observations upon the subject may not perhaps be devoid of interest to some of the readers of the Journal. This affection, I may premise, is not uncommon. It occurs at all periods of life; it attacks the robust in its acute form, and the weakly in its chronic; and many persons, otherwise strong and in perfect health, suffer much inconvenience from it. Enlargement of the uvula, in its acute form, is mostly found to occur as the consequence of cold, from exposure to wet when associated with cold damp air. It becomes greatly distended; and, when examined, will often be found to be so elongated as to double upon itself, with its free extremity infiltrated into a bulbous form, resting upon the tongue. Its presence in this condition produces considerable distress, with a frequent and suffocating cough. It is not, however, in this instance a disease *per se*, but occurs as a portion of, and in connexion with, generally inflamed parts. Will, then, treatment directed alone to it influence and improve the state of the surrounding tissues? It will. And yet, in practice, such is not ordinarily allowed to be the case; or if it be so allowed, is not acted upon; and the individual thus affected is often permitted to remain suffering for days, from a source of irritation and annoyance which is capable of being almost at once removed by the discharging of the serum and blood which, combined, produce the distension of the areolar tissue surrounding the organ, and produce the mischief.

How is this, then, so readily effected? By simply scarifying the front of the uvula by snipping it across with a pair of scissors, or vertically scoring the surface with the point of a tenotomy knife; both acting in the same way by giving vent to the fluids that are effused. This treatment (so simple) is, however, not generally adopted. Gargles and the inhalation of vapour we find to be the means ordinarily resorted to with the view of removing the consequent distress—a distress which is almost entirely dependent upon the obstruction which the elongation produces, and which is reduced as soon as the œdema is got rid of.

Acute inflammation of the uvula is, however, its exceptional state; and the condition in which it is generally presented to the surgeon is that of chronic enlargement or relaxation. This state produces, not merely uneasiness of the fauces and occasional cough,

but severe paroxysms in some cases; and in others, sudden and alarming symptoms of impending suffocation; whilst in a third set there will be nausea extending to emesis, and the habit, if not checked, leads to periodically rejecting the food taken some short time before. In a fourth set of persons there will be nocturnal disturbance, imitating nightmare, interrupting sleep, and thereby breaking down the health of the individual in a very rapid manner. In all and each of these affections the uvula is in a chronically relaxed condition; the length of the organ is increased, the form assumed varying in different cases. In one individual it will be tapering, assuming a thin, pendulous, ribbon-like slip, broader above than below. In another it will have a neck-like extension, terminating in a transparent gelatinous body below, so confirmed, in some instances, as to warrant almost the term of polypus being given to it; and so pendulous that astringents are powerless in their action upon it. Now, taking the train of symptoms, in their progressive order, which follow upon the enlargement of the uvula, the most usual consequence is that of a feeling of uneasiness of the fauces, which prompts the act of hawking; this being rendered doubly necessary by the secretion of mucus which accompanies this condition, and which requires a considerable effort to be made for its ejection. This occurs more particularly in the morning, in order to get rid of the product of the night.

Tickling of the fauces is the next annoyance; and this produces a sensation of nausea such as oftentimes cannot be commanded; and the sudden and almost instantaneous contraction of the stomach which follows terminates in the ejection of its contents. This, too, is more common in the morning; and I have known an individual, for weeks, who could not be prevailed upon to have the uvula shortened, regularly vomit up his breakfast daily. Whilst this, then, is a consequence that follows upon rising, the state of the patient during the night may be infinitely worse. He may retire to bed tired and fatigued, but no sooner falls off asleep than an apparition throws itself suddenly upon him, and endeavours to strangle him by grasping the throat; escaping only after a severe contest and struggle, the individual awakens frightened and almost powerless from the imaginary trial of strength—again sinks off to sleep under the depression, but only to meet and undergo a repetition of the same hideous scene. Three, four, and five times a night may the same thing occur, so as almost entirely to rob the patient of sleep and rest, and to cause retirement to bed to be dreaded;

each attack terminating in a profuse cold sweat, leaving the sufferer feeble and exhausted.^a In phthisis, too, elongation of the uvula is often a most severe complication, and its truncation imperatively demanded; for, from falling down into the orifice of the glottis, symptoms of suffocation may occur, and, in the struggling effort at forced expiration, in order to expel the foreign body from the air tube, a large pulmonary vessel may give way. There is no security, indeed, for a single moment; and the individual is perpetually liable to threatened suffocation from this cause, if the uvula, especially, have become elongated into what I have alluded to as its polypoid form.

The obvious plan of treating this affection in either of the cases I have alluded to is the removal of the offending organ by excision; not, however, in any haphazard manner, but with a proper regard to the portion to be removed, and due allowance for what should be retained. If sufficient be not taken away little or no relief will follow; if, on the other hand, too much be excised, considerable annoyance will be the result, as the effect of such truncation is to destroy the natural condition and form of the pharynx. It is an error to suppose the uvula to be superfluous, as some almost seem to regard it.^b It is necessary for perfect deglutition; and its abstraction materially interferes with that process. It should be removed, therefore, by scissors adapted to the purpose, that effectually perform their office, seizing and fixing the uvula securely, without unduly dragging upon it. If the pendulous portion be not fixed steadily at the moment of removal the chances are that it will not be cut through. It is the seemingly trivial nature of the operation that leads to the neglect of ordinary care and precaution. I recently witnessed a case which bears so completely upon the point that I may mention it here:—I was seeing, in consultation, a gentleman who had come from the country, with symptoms of external aneurism, and who, after the conclusion of the more immediate question, expressed a desire for his throat to be examined, as it was giving him trouble. The surgeon in attendance did so, and at once informed him that

^a *Vide* cases reported by Drs. Russell and West.

^b One use of the uvula seems to be to direct the mucus of the nares into the œsophagus. It is not required by those animals whose heads are not erect on the spine, and therefore is restricted to man and the simiæ, and some of the ruminants—as camelopard, dromedary, or those whose heads are carried erect. It assists, also, in swallowing liquids, by directing them away from the epiglottis, by dividing the fluid into two streams, as noticed by Professor Corbett.

his uvula was too long, and must be snipped off, taking a pair of ordinary scissors from out of his pocket-case, and desiring the patient to open wide his mouth. This he did, and stood boldly upright; but no sooner did he feel the blades closing than he involuntarily sprang back; the surgeon made a plunge and dart at the uvula, but failed to cut it more than partly through; and the utmost entreaties were required to prevail upon the patient to sit down and allow the excision to be completed. For half an hour, or more, he persistently refused; and he was very nearly returning home to the country with his uvula only half divided. The annoyance caused to the practitioner was extreme; and, as we left the hotel, he declared that he would not have had it happen for a very great deal, and that "he would take —— good care it should not occur again."

Of the forms of scissors and guillotines fashioned for this purpose I prefer those invented by Dr. Carte, and first exhibited at a meeting of the Surgical Society of Ireland, in 1846, but invented by him in 1841. The date I particularly mention, as I believe the priority has been claimed elsewhere. This instrument, at the same time that it cuts the uvula, has a provision by which it secures the divided part, and thereby prevents the possibility of the separated portion falling down into the opening of the air passage. It consists essentially of a pair of scissors, with blunt points; but, in addition to the ordinary cutting blades, there are beneath these (attached by means of screws) a pair of blunt supplemental blades, whose flat surfaces come in contact with the substance of the uvula wherever it may be seized, and grasp it steadily whilst it is being severed by the cutting blades—holding it subsequently until released. The tongue can be depressed with the left hand of the surgeon when employing these scissors, but not so when using the common kind, as the freed portion of the uvula has to be taken hold of by a tenaculum, spring-forceps, or hook. With reference to the forms of astringents to be employed in cases where the individual objects to have the uvula excised all have to be resorted to in turn, but the simplest and one of the most efficacious is the common decoction of oak bark with alum. For the treatment of elongated uvula, however, if developed to an inconvenient length, there is no remedy so efficacious as truncation properly performed.

ART. XVI.—*On the Recent Epidemic of Puerperal Fever in Dublin.* By JOHN DENHAM, M.D., Master of the Dublin Lying-in Hospital.

AN earnest desire to uphold and promote the interests of the profession, and a determination to bring under the notice of my brethren whatever of interest or value might come before me in my present position, be the result favourable or the reverse, must plead my apology for taking up the subject of puerperal fever, which has been so often and so ably discussed by other writers.

This fatal malady, like an ill-omened bird, seems to await the incoming master to this institution on the very threshold of his appointment, and take delight in marring the happiness consequent on his appointment, by many a sad and heart-depressing scene, thus teaching him that his post, however honourable or lucrative, is one of deep responsibility and anxious care.

The epidemic I am now about to speak of has been peculiarly of the asthenic type; remarkable alike, in the majority of the cases, for its early invasion after delivery, the rapidity of its course, and its fatal termination. More than any other epidemic that I have seen, it has impressed me with the close relationship that exists between puerperal fever, erysipelas, and scarlatina. Depletion by bleeding, or purgatives, however successful in other hands, and in former epidemics, we found to be not only useless, but most decidedly injurious in the present outbreak. And in making this remark, I beg to be understood as not, in the slightest degree, casting any imputation on the practice of those eminent men—such as Collins, Armstrong, Gordon, and others, who in former epidemics treated the disease, and treated as successfully perhaps as we now do, by the lancet, calomel, or emetics. My opinion has long been that either through atmospheric influences, changes of constitution, induced, perhaps, by atmospheric influences, modes of living, or other unseen, and therefore unknown causes, a new and different disease has been called into being; not new, I regret to say, in the frequency of its visits, its symptoms, or its fatal results; but new as to the treatment necessary to insure any reasonable hope of success.

That the blood-poisons inducing puerperal fever, scarlatina, or erysipelas, are closely allied, if not identical, is by no means a new idea. Several of the older writers alluded to it, and it has been

strongly dwelt upon in some of the reports of former epidemics in this Hospital, as you will see by referring to the 27th No. of the *Dublin Medical Journal*. The late Dr. Douglas, of this city, in a paper written in 1821, thus alludes to it:—"The contagious puerperal fever of Dublin, is, I venture to pronounce, nothing more or less than a malignant fever of a typhoid character, accompanied with an erysipelatous inflammation of the peritoneal covering of the stomach, intestines, and other abdominal viscera."

McClintock and Hardy, in their valuable report of this Hospital, say—"The same state of the atmosphere that gives rise to erysipelas, would seem to favour very much the development of puerperal fevers generally, and the phlebitic form in particular."

My friend, Dr. Henry Kennedy, has also directed attention to this subject in a very valuable paper read before the Obstetric Society some years ago.

The epidemic of which I am now speaking, like almost all other epidemics, came upon us with slow but certain progress; and here I would beg to remark, that I use the word epidemic in its literal sense, as opposed to the term contagion or infection. Much confusion has arisen, I apprehend, by our not keeping such words apart, and giving to each their true meaning.

By an epidemic disease I understand one, which, independent of local causes, seizes on a great number of people at the same time, and in the same season. By a contagious or infectious disease I mean one that is in any way communicable from one person to another; the disease being conveyed to the person of the recipient by particles of matter proceeding from the person of the sick, either in a solid or gaseous form; imparted by the air, or carried upon articles of clothing.

I beg not to be understood as wishing it to be inferred from what I have said, that a disease is not contagious merely because it prevails epidemically; the two may and do meet in the same malady, and must not, therefore, be regarded as incompatible properties; and I am free to admit, that those two properties may often be found to combine in the very disease of which we are now speaking. What I complain of is, that those writers who advocate the infectious nature of puerperal fevers, in their anxiety to establish their position, have entirely overlooked the epidemic element, and have heaped unmerited reproach on medical men who have had the misfortune to live within the epidemic circle, and upon institutions that have been the recipients of patients who have imbibed the

epidemic poison perhaps for days before they entered within its walls.

In the month of November last there were 72 patients delivered in the hospital; 16 were attacked with puerperal fever, and one with scarlatina; she recovered. Of the 16 puerperal cases 9 died; in five of them the fever was of a low typhoid form, proving fatal on the fourth or fifth day after delivery. In three of them the symptoms presented were those of uterine phlebitis and pyemia—proving fatal—one on the seventh, one on the eighth, and one on the ninth day. The remaining fatal case was attacked with pain (abdominal) and rigors on the second day after delivery; on the night of the fifth day she had two marked fits of convulsions, with vomiting of black fluid; she never became conscious after the first fit, but lay in a state of stupor until the ninth day, when she gradually sank and died.

One of the six non-fatal cases was attacked with pain and swelling of the left knee, which extended to the whole leg, causing much pain and constitutional disturbance. Another had, superadded to the phlebitic symptoms, erysipelas of her left elbow, ending in abscess; she became maniacal on the seventeenth day, and was removed by her friends on the twenty-first, contrary to our wishes.

In December there were 103 deliveries—and of these 14 were attacked with puerperal fever, and three with scarlatina. Nine of the puerperal cases proved fatal—death taking place in all, with one exception, from the fourth to the sixth day. In the exceptional case, the urgent symptoms so far subsided as to enable the patient to be removed to the recovery ward. There she was attacked with phlegmatia dolens, inflammation of the knee joint, and sloughing over the sacrum and on both hips. She was released by death from her intense and prolonged sufferings on the thirty-sixth day after delivery, every texture in the body giving evidence of blood-poisoning to a fearful extent. The patients attacked with scarlatina all died. One of the five cases not fatal, suffered from a severe attack of bronchitis, for which she was attended by Dr. Croker, our consulting physician; another had an abscess over one scapula.

The new year, which to most people is a time of rejoicing, proved a season of deep sorrow and anxiety. From the 1st of January till the 11th, when the hospital was closed, we had 37 patients delivered. Of these, four were attacked with scarlatina, and 16 with puerperal. All the scarlatina patients died—two on the third day after the attack, and two on the fourth. Ten of the puerperal cases

proved fatal; one of them died in 24 hours; another, in which there was morbid adhesion of the placenta, died on the third day, with symptoms of uterine phlebitis; in another pleuritis was superadded to the phlebitic inflammation, and proved fatal on the seventh day. Two others were attacked with erysipelas, and died—one on the twelfth and the other on the sixteenth day.

Of the six cases that recovered, one was attacked with erysipelas of the right arm, which ended in an abscess.

The hospital was again opened early in the month of February, admitting, however, only a limited number of patients. Thirty deliveries took place; and of these six were attacked with puerperal fever; two of them died, and one was in hospital until lately—a case of considerable interest.

She appeared a healthy, active girl, and had a safe and easy labour for a first child. She became maniacal, however, on the second day, having had a rigor a few hours before; symptoms of metritis and peritonitis, with frequent rigors, followed; she complained much of pain in the head; and on the tenth day inflammation of the right eye set in suddenly, with loss of vision; an erysipelatous patch also appeared on the right elbow, which ended in a small abscess. Sloughing over the nates next appeared; but she ultimately recovered, with loss of vision in the right eye.

In this case the head was shaved, and nauseating doses of tartar emetic were given in the first instance; when the pain set in over the uterus she was leeches, as the pulse was quick and strong. She was then put on hypo-sulphite of soda in scruple doses; but this we were obliged to discontinue, as it induced vomiting and purging, although given with small doses of liquor opii; bark, and carbonate of ammonia were then given, with a liberal allowance of wine and chicken broth. I should have mentioned that the chest was much engaged in this case also. For many weeks she remained in a most pitiable condition, but has now left quite well.

From the brief and imperfect report now given it will be seen that out of 150 cases 50 were attacked with puerperal fever, and eight with scarlatina; 20 of the puerperal cases died, and seven of those attacked with scarlatina; of the latter, one lived till the fifteenth day; the case was one of great interest, but very unpromising from the commencement; eruption very abundant, but of a dark livid colour; pulse weak and rapid; sordes on the teeth; great prostration, with low muttering delirium; yet, contrary to our expectation, the fever subsided, the pulse fell, and desquamation

extensively set in, giving us a strong hope of recovery, when, unfortunately, an overloading of the stomach with food, incautiously given by the nurse, brought on an attack of vomiting, under which she rapidly sank and died.

Bark, with carb. ammonia, brandy in small quantities, and wine to the amount of 148 oz., formed the principal treatment in this case.

The class of patients that came in at this time were ill fed, ill clothed, and often depressed, not only in body but in mind; some of them unmarried, and some of intemperate habits; very much the class of persons that fell victims to the cholera when it prevailed in this country. The cholera in India is much more frequent and fatal among our common soldiers than their officers; and so with puerperal in this country, be it infectious or epidemic; it is not only more general, but much more fatal among the poor and the outcast than among those who are well to do in their comfortable homes. As I have already mentioned, the present outbreak was characterized by the early and urgent appearance of the symptoms, and the little influence exerted upon them by treatment. The data given will show how short the time allowed us to attempt a cure, and how unpromising the material we had to work upon. Depletion could not be borne; and, when tried, did not seem to allay the symptoms. Stimulants and light nutritious food were what we relied most on, and apparently with most success. To some we gave muriated tincture of iron; to others, the hypo-sulphites; and others again we treated with camphor and Dover's powder. But the result appeared to be much the same in all. Our success, or rather the absence of it, was quite as great in the one form of treatment, so far as specifics were concerned, as the other; and the conclusion has been forced upon us that, as in cholera, so in puerperal, we have yet to seek for a certain remedy.

One patient had a rigor 14 hours after delivery, and died on fourth day. Another in 16 hours after—she died on the fourth day also. A third shivered 17 hours after delivery, and died on fifth day. And a fourth in 20 hours after—she only survived 36 hours.

The amount of stimulants necessary was well exemplified in the case of Mary Clive, who took 164 oz. of wine during the attack—she recovered.

The subject of contagion in puerperal fever is one of the deepest importance, not only to the profession generally, but to the public at large; and one, too, I am sorry to say, on which there is a great

diversity of opinion. A preponderance of talent and experience will, doubtless, be found in favour of infection; but I must say that many of the facts and arguments put forth by those who uphold it appear to me very inaccurate, unphilosophical, and inconclusive. I am by no means prepared to deny that puerperal fever is infectious, but I believe it to be much less so than is generally supposed, and that the epidemic element, after all, is the principal agent in upholding and propagating the disease.

I shall briefly allude to the opinions of a few of those who have written on both sides of the question, and then draw some general conclusions elicited by the recent epidemic, and the reconsideration of the subject which has thereby been forced upon me.

Dr. Semelweiss, of Pesth, in his book on *The Etiology, Nature, and Prophylaxis of Puerperal Fever*, states that puerperal fever is, without any exception, a fever of absorption, arising from the absorption of decomposed animal matter, which, in far the greater number of cases, is communicated from without, and that these are cases that can be guarded against. In some rare cases the decomposed matter is generated within the limits of the parts affected, and these are cases of self-infection that cannot all be guarded against. One source of this matter which produces puerperal, is a dead body of whatever age or sex, no matter what the malady was of which the individual died, it is also indifferent whether it be or not the body of a woman who died in child-bed, it is only the degree of putrefaction which is here of consequence. A second source from which the decomposed matter comes is sick persons, no matter what their ages or sex, whose maladies are attended, in their progress, with the generation of decomposed animal organic matter; thus, in the first lying-in ward of an hospital in Vienna, puerperal fever was produced, in October, 1847, by the oozing out of matter from the medullary cancer of the uterus, and in November, '47, by the effluvium of a carious knee.

He mentions, as a third source, all the physiological formations which, having been withdrawn from the control of the vital forces, have entered into a certain degree of decomposition; thus in 1856-7, '57-8, the physiological blood, and the normal *fluxus lochialis* became, in the Pesth hospital, the etiological momentum of puerperal fever.

The place where this matter is absorbed is, he says, the surface of the uterus, from the mouth upwards, it being deprived of its

mucus membrane, and consequently highly capable of absorption. The conveyers of this poison are the finger of the examiner, bed clothes, atmospheric air, sponges, hands of nurses, bed pans, &c. The time when infection most often occurs is during the opening of the os, as then the necessity to probe it with the finger is most frequent. As a proof of this, at the time before washings with chlorine were practised in Vienna, all those women with whom the period of the opening was protracted beyond the usual time died, almost without exception, of puerperal fever.

He admits having seen at least 20 women attacked with puerperal during pregnancy; that is, I presume, before delivery. He further states, that a single woman died during pregnancy of puerperal fever, and was delivered by him, by means of the Cesarian section, in order to save the life of the child. It does not appear very distinctly whether he operated before or after death, nor does he inform us whether the child was saved or not.

Dr. Gordon, of Aberdeen, states, that the malady attacked only those women who were attended by a physician or nurse who had previously attended those affected with the disease.

Copland in his *Dictionary of Practical Medicine* says, the fact of the contagious nature of this disease, is completely set at rest by the above evidence, especially when it is *undisputed* that within the walls of lying-in hospitals a miasm is often generated as palpable to the senses, and even much more so, than the fumigations used to destroy it, and more deadly than the plague, if not arrested at its commencement. I may further add, he states, that lying-in hospitals, or even lying-in wards, ought not to be allowed to exist.

Again, he states, the practitioner is now too well informed, or at least, the sources of information, as to this matter, are too open for him to be longer ignorant, that this most deadly of our domestic pestilences, is conveyed from the infected to the healthy, chiefly, and most frequently, by the accoucheur, when it occurs without the walls of a lying-in hospital.

Among other proofs of infection, he mentions a case reported by Dr. Merriman, in the *Lancet* of May, 1840, where the Dr. states, that he attended the *post mortem* examination of a puerperal case, at 2 o'clock, P.M., but took care not to touch the body; at 9 o'clock the same evening he attended a woman in labour, she was so nearly delivered that he had scarcely anything to do. The next morning she had rigors, and died in forty-eight hours; her infant had erysipelas, and died in two days.

Again, in the more concentrated state of the effluvium, as generated in the crowded wards of a lying-in hospital, I have seen, he writes, females without any complaint, and dead within twenty-four hours afterwards. Again, he says, I believe that the chief sources of puerperal fevers, particularly of their most malignant forms, are lying in hospitals, in which not only a very large proportion of those who are received become infected, but also from which the infection is carried abroad, not solely by the females who go out, but also by the clothes of the dead, and of those that recover, and by the persons and clothes of the medical attendants. Again, most of the instances in which puerperal fever has become so prevalent, as to be called epidemic, have occurred in lying-in wards, and the disease has been limited to them, unless on some occasions, when the infection has been carried abroad from them. The term epidemic is, therefore, not strictly applicable, the malady being truly endemic. It is not improbable, however, he admits, that certain atmospheric constitutions, &c., may so affect also the form and prevalence of puerperal fever, as to render it not only endemic in lying-in hospitals, but also epidemic, or approaching to this state, in various places in which it may break out.

Privies, next to accoucheurs, he looks upon as one of the principal sources from whence arises the spread of puerperal, and other female complaints; thus, at page 129 he says—"Privies emitting contaminating vapours, I have remarked in several instances to give rise to asthenic, or irritative and spreading inflammation of the vulva, vagina, and cervix uteri of married females, and even also of the rectum." At 167, he says—"It has been shown above that the poison may be conveyed to the uterus or the vagina by contact, by the hands of the accoucheur, or the poisonous miasms or vapours exhaled from foul privies, frequented just before delivery. A gust of foul air on those occasions may so infect the vagina and os uteri as to give rise to all the complications and phenomena of this malady."

Professor Simpson, of Edinburgh, holds strongly the infectious character of the disease, and, I regret to add, makes the doctor bear the sin and disgrace of spreading the disease to a large extent. He says—"We do not believe in this country that the disease is usually propagated directly from individual to individual, but indirectly through the medium of a third person, and that person generally the medical attendant or the nurse." "The disease," he adds, "is often, confined to the practice of some one single prac-

tioner or nurse in a town or city;" in proof of which he gives the case of the midwife, reported by Dr. Robertson, of Manchester, where the patients of one nurse alone, out of 12, were attacked, and of whom 16 died in different parts of the city. The disease, he states, may be propagated by the morbid effusions of one puerperal woman when inoculated into another.

2nd. By the secretions from the vagina of a puerperal woman conveyed by the fingers of nurses or midwives.

3rd. By the secretions from other diseases, such as erysipelas; and 4th, by some varieties of febrile exhalations inhaled into the blood of newly delivered women.

In proof of this last opinion, he alludes to the case of typhus fever mentioned by Dr. Collins, where the woman in the same ward appeared to be infected by her, and died of puerperal fever.

Prof. Simpson further says—Patients during labour may and have been locally inoculated with a *materies morbi* capable of exciting puerperal fever, and this poison is liable to be inoculated into the maternal passages by the fingers of the attendant. In cases in which puerperal fever is thus communicated and produced, two or three days after delivery usually elapse before the disease breaks out, or in other words, there is a latent period like what we see in small-pox and other communicable diseases. And to show with what facility the disease may thus be produced, he describes the internal state of the uterus and vagina after delivery. We have, he says, a wound or solution of continuity on the whole internal surface of the womb, made by the separation of the placenta and the exfoliation of the decidua, and this wound has, opening upon its free surface at the former site of the placenta, the mouths of numerous arteries and veins.

The vaginal mucus membrane is generally stretched and abraded in labour, the perineum is often slightly torn, and the whole affords a surface in a condition easily inoculable.

The diminished mortality in the Hospital at Vienna, said to have been produced by obliging the students to use disinfecting agents to their hands before entering the Hospital from the dissecting room, has been much dwelt upon, and perhaps with much justice and truth, especially if such students had been engaged in the *post mortem* examination of puerperal women; the purification of the clothes of such students would, however, in my mind, be quite as necessary as that of their hands; but we have yet to learn whether

the diminished mortality was so produced, or was merely the result of the cessation of epidemic influences.

And now let us turn to those who take the opposite view of the case.

Dr. Meigs, of Philadelphia, in his work on midwifery, states—"I do not find the least reason to suppose that I have ever conveyed the disease from place to place in any single instance. I have made many necroscopic researches, but never did I suspend my ministry as accoucheur on that account; still I certainly never was the medium of its transmission. I have, in numerous instances gone from the bed-side of women dying of child-bed fever, whether sporadic, or in the most malignant degree epidemic, without making my patients sick.

"In a series of labours, 468 in number, and beginning with No. 1, 18 and 19 were affected; so was 31. No. 195 and 259 were sick. No. 291 died; also 293. No. 332, 339, 435, 444, and 445 were attacked.

"Thus 13 cases in all sickened; 3 of these died, 10 recovered. Now if I was the medium of contagion, why did I poison them in the ratio and order above set forth; and why did I not communicate the disease in more than 13 cases out of 468?"

Dr. Meigs also mentions the case of a Dr. Rutter, who seemed to be tracked by the cause of this disease, and who, to escape from it, went into quarantine for 10 days, a distance of 35 miles. On his return, he had his head shaved, took a warm bath, procured a new wig, new clothes, new hat, new gloves, and new boots; he even left his watch and pencil at home. Well, he went to attend a lady who had a very favourable labour, yet was next day assailed by a horrible child-bed fever and died. "I was," says Dr. Meigs "a great deal with her in her illness, but she did not poison me nor my clothes; for although I went on with my practice, I poisoned nobody."

Dr. Churchell, in his truly practical work on midwifery, gives the case mentioned by Gooch, where a man in large practice lost so many patients that he left off for a month, during which time not a case occurred to his partner. He returned; again resumed, and the very first case he attended was attacked with the disease and died. My friend, Dr. M'Clintock, has declared to me that he was never conscious of having conveyed the disease from the Hospital to a private patient; nor could he bring to his recollection a case in Hospital where a patient in the bed next to a puerperal fever case seemed to be infected by her unfortunate neighbour. So

far as my experience has gone, I can safely testify to the same fact. I will next introduce one or two old and esteemed friends, as unwilling, or rather I should say incidental witnesses on this side of the question.

Dr. Collins, in his valuable report, states that in February, 1829, puerperal fever, which for several months previous had prevailed in the Hospital, now increased so much in intensity as to induce him to close the Hospital, when the entire house was fumigated, white-washed, and cleansed in the best possible manner.

From the time this was completed until the termination of his mastership in 1833, he states he did not lose one patient by this disease, a period of nearly 4 years.

In Johnston and Sinclair's very able and valuable report of Dr. Shekleton's mastership, they state, that while in 1848 there were 43 cases of puerperal, in '49 there were only 29 cases; in '50, 15; in '51, 10; in '52, 3; in '53, 8; and in '54, 11 cases. Total number, 129. Deaths, 75. Recoveries, 54.

Only 2 cases of scarlatina, and 1 of erysipelas occurred during the entire seven years. All 3 were fatal.

Will any one for a moment contend that the immunity from this disease, thus enjoyed by Dr. Collins for four years, resulted merely from whitewashing, fumigating, and cleansing? or will our friends, Drs. Johnston and Sinclair, contend that the absence of puerperal from the years '50 to '54, was the result of any particular mode of practice, or any increase of care and attention on the part of the Master and Assistants? Should we not rather ascribe it to the absence of epidemic influences, combined with the strict attention to cleanliness and ventilation that has at all times characterized the management of this institution.

We are all familiar with the fact, that there are great varieties in the general character and symptoms that occur in different epidemics of the same disorder; at one time or in one place inflammatory symptoms run high; on another occasion there is an early tendency to debility and sinking. These differences are not to be explained by any variation in the exciting cause, which is a definite poison; nor should they be ascribed, perhaps, to any appreciable quality or agency of the weather at the immediate time; they seem rather to depend upon changes that have been slowly wrought upon the human body, changes probably due to previous conditions of the atmosphere, which have exercised a long and gradual influence upon all the individuals of a community.

The poisons that may enter the system form two distinct classes, inorganic and animal; of the former some are taken into the blood and emerge again from the body unaltered; they may induce changes, and if these changes be salutary, the substances become medicaments; if the changes be injurious or destructive, they are poisons. Other of the inorganic poisons enter into permanent chemical union with the tissues, and, as Liebig says, deprive the organs of the property which appertains to their vital condition, viz.:—that of suffering and effecting transformations. If the organs of which the functions are thus destroyed are vital organs, these poisons are fatal.

But the animal poisons, those at least with which we are more concerned, act in a totally different way, they effect changes in the blood, whereby they are themselves abundantly multiplied or reproduced. This is the old humoral pathology. The ancients attributed various disorders to a fermentation of the animal fluids. The cause of fever, according to Hippocrates, was some morbid matter in the blood, this, by a process of concoction, was brought in a certain number of days into a state in which it was ready for expulsion from the body, it was then thrown off by hemorrhage, sweat, or alvine discharges, or deposited on the surface in the form of abscess or cutaneous eruption. This theory is much the same as that which Liebig is now teaching.

He ascribes the phenomena which succeed the introduction of certain poisons into the blood to a process resembling fermentation; this, he says, is but a type of what takes place in other fluids, under analogous circumstances. He maintains that a substance in the act of decomposition, added to a mixed fluid in which its constituents are contained, can reproduce itself in that fluid, in the same manner as new yeast is produced, when yeast is added to liquids containing gluten. Thus, for example, the virus of small-pox causes such a change within the blood, as gives rise to the reproduction of the poison from certain constituents of that fluid; and whilst this process is going on, the natural working of the animal economy is disturbed—the person is ill.

The character and phenomena of puerperal fever, and its inflammatory results agree with those of small-pox, measles, scarlatina, and other so-called disseminated inflammations of M. Chomel in this respect, that whilst originating, as he believes, in different specific infections of the liquids or blood, they all agree with each other in several respects, as that they cannot be excited artificially

by the common causes of inflammation, but are developed by specific causes; they are thus secondary inflammations, resulting from a primary morbid diathesis, or alteration of the animal fluids.

With respect to the opinions put forth by Dr. Semelweiss, of Pesth, namely, that puerperal fever is, without any exception, a fever of absorption from decomposed animal matter, and that the place where the matter is absorbed is the inner surface of the uterus, such poison being conveyed to it, in the great majority of cases, by the fingers of the medical attendant during the first stages of labour, I feel it would only be a waste of time to dwell upon them. He seems entirely to overlook the fact that the disease frequently appears in towns where there are neither lying-in hospitals or dissecting rooms, and in rural districts where medical practitioners are seldom called upon, in midwifery cases, until the patients are, perhaps, beyond recovery. He also forgets that small-pox, measles, and scarlatina, with other infectious diseases, are often propagated by the inhalation of a poisoned atmosphere, where no contact could possibly have taken place.

I may mention that I have lately visited the hospital in Vienna, and that the professor of midwifery, Dr. Braun, informed me that the theory put forward by Dr. Semelweiss had been entirely upset during the last outbreak of puerperal. The midwifery hospital in Vienna is divided into two departments—one being devoted to the instruction of medical students, the other being entirely managed by nursetenders. It so happened that during Dr. Semelweiss' residence in Vienna puerperal fever was much more prevalent and fatal in the department allotted to the students than in the others, and upon this circumstance he founded his theory and supposed discovery of prevention by washing the hands with chlorine. Unfortunately for this view of the case, during last winter the disease was more frequent and more fatal in the female department than in that to which the medical students had access.

It is much to be regretted that the writer in *Copland's Practical Medicine* should have met with such unfavourable specimens of midwifery hospitals as to lead him to hazard such rash statements as he has made. I have been in many such hospitals, but have never yet been able to discover a miasm generated there as palpable to the senses, and even more so than the fumigations used to destroy it, and more deadly than the plague.

Will any one agree with him, that the case given by Dr. Merriman is a proof of infection. He attended a *post mortem*

at two o'clock P.M.; took care not to touch the body; at nine o'clock the same evening he attended a lady in her confinement, who was so nearly delivered when he arrived that he had scarcely anything to do. The next morning she had a rigor, and died in 48 hours. I would merely ask, through what channel was the poison conveyed in this case, and what was the duration of the period of incubation? In another paragraph he asserts:—I have seen females in lying-in hospitals, without any complaint, and dead in 24 hours afterwards. Here, again, I would ask, how was the infection communicated, and what was the length of the period of incubation? His credulity with respect to the spread of chronic diseases in the vulva, vagina, cervix uteri, and even the rectum of married females, by contaminating vapours from privies has, I confess, shaken my faith in his judgment quite as much as his aphorism that vapours exhaled from foul privies, frequented just before delivery, may induce puerperal fever, with all its complications and phenomena.

Professor Simpson seems to agree, to a large extent, with Dr. Semelweiss in thinking that the disease is propagated principally by the local inoculation of a *materies morbi* in the maternal passages, and in support of this he describes the whole inner surface of the uterus as a wound or solution of continuity, and this wound, he states, has, opening upon its free surface at the former site of the placenta, the mouths of numerous arteries and veins. The condition just described I believe to be the exception and not the rule, and is only to be met with where the vessels have been, as it were, accidentally ruptured; this I know, that I have separated the placenta from the uterus, where a woman had died undelivered, without rupturing a single vessel, or spilling a drop of blood. This, however, is a matter rather beside the question, and not bearing much upon the discussion. Professor Simpson states what is more to the point, so far as the question of contagion is concerned in relation to our late epidemic, namely, that in cases where puerperal fever is communicated by the poison being brought into contact with the maternal passages, two or three days usually elapse before the disease breaks out; in other words, there is a latent period like what we see in small-pox and other communicable diseases.

During the late epidemic one patient had a rigor in 14 hours after delivery, another in 16 hours, a third in 17, and a fourth in 20 hours after. One patient died in 36 hours after delivery. Several

came in evidently in bad health, with a pulse weak and rapid, and complaining of pain from the moment of delivery. One private patient of my own had a rigor three days before delivery, and constant pain ever after.

Some of the patients who were refused admittance went home, were confined, sickened, and died, although not attended by any one connected with the Hospital. It is, I believe, admitted by all that there was an unusual amount of puerperal fever over the city and neighbourhood during the winter; one practitioner admitted having had nine deaths among the poor or middling classes, and another told me he had seen four women die in puerperal during the winter. When lately in Paris, Munich, and Vienna, I found they had had outbreaks of the disease similar to what we had experienced, only on a much larger and more fatal scale. The Professor at Vienna told me that 36 women had been attacked, during the winter, before delivery, and, as I have already stated, that it was most prevalent and most fatal in the department from which the students had been excluded.

The Professor at Munich mentioned to me a most interesting fact connected with the Hospital there; it was opened for the reception of patients for the first time in 1859, with new beds, blankets, and sheets, and a new staff of nurses. Yet scarcely was it open until they had a fearful outbreak of puerperal, which has visited them every year since. The epidemic had entirely subsided, both in Munich and Vienna, before my arrival. On asking the Professor at Vienna whether he thought the disease was induced or kept up by the students, his reply was short, but expressive. "We have the students always with us, the puerperal only sometimes."

The same reply is, I think, very appropriate to our own case, where we have the same staff of officers, nurses, and students now, as in the winter; where the same attention to cleansing, fumigation, and white washing in the wards is kept up,^a and where the students are obliged to wash their hands in disinfecting fluid, in every ward, and on every occasion, before taking charge of a patient: but with how

^a In the Dublin Lying-in Hospital the wards are occupied in regular succession. When the patients leave, the beds and bed-clothes are all removed, emptied, washed, and filled again with clean straw. The ward, and every article in it, is fumigated and washed: clean, well-aired sheets, blankets, and quilts are then put on, and after the ward has thus been purified and well ventilated for some days, new patients are again admitted.

different a result now as compared with the epidemic period. Then every patient in the house almost was attacked, now scarcely a quick pulse or a tender belly. During the last three months, we have had only two deaths in 250 deliveries in the house, among which we had cases of placenta previa, difficult labours, and turning cases.

If we admit that there is in all such diseases, whether epidemic or infectious, a latent period, and take into consideration the ordinary period of incubation in small pox, scarlatina, and such like diseases; and bear in mind, at the same time, the fact, that the symptoms of puerperal fever are often present even before labour comes on, or develop themselves in a very few hours after delivery, I think we will have forced upon us the conclusion that the poison has not been communicated by the fingers of the medical attendant or that of the pupil on duty, nor yet has it come from the walls of the hospital. In my opinion the poison is often taken into the system (however communicated) perhaps for days before labour sets in, and there lies dormant, being thus kept in this latent condition by some law of the system, the result of the pregnant condition.

May we not, therefore, fairly infer that puerperal fever possesses quite as much, if not more, of the epidemic as of the infectious character, and that we have yet much to learn both as to the nature of the disease, and the best mode of treating it.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Influence of Tropical Climates in Producing the Acute Endemic Diseases of Europeans, including Practical Observations on the Nature and Treatment of their Chronic Sequelæ, under the Influence of the Climate of Europe. By SIR JAMES RANALD MARTIN, C.B., F.R.S., &c., &c. London: Churchill. 1861. pp. 778 Second Edition.

SIX years have now elapsed since we drew the attention of our readers to the previous edition of Dr. (now Sir Ranald) Martin's standard work on the diseases of India. He had at that time proved that his medical—in the widest acceptation of the word—knowledge of India was such as had never previously been attained. The startling events which have occurred in that country within those six years have resulted in bringing it more closely under our immediate observation, and the important change in its mode of government has more intimately connected it with us.

In an address, lately delivered at Chatham by the Professor of Military Medicine, he is reported to have said:—"From this time forth from seventy to eighty thousand British soldiers will be employed in India; it is obvious, then, that *prevention* as well as *cure* of tropical disease must be a subject of anxious study to army medical officers." In this brief sentence we have summed up the object of Sir Ranald Martin's work, namely, the prevention of disease in those tropical climates in which our fellow countrymen now more than ever pursue, with their wonted enthusiasm and energy, those avocations which, while they perpetuate the memory of a Canning and a Havelock, are carried on at such disadvantages of climate, and of atmospheric and other unnatural influences, that but few Indian statesmen have been able to remain sufficiently long in the country to obtain that practical information so necessary for

the proper administration of its fiscal and judicial economy. Of those whom choice induces, or necessity obliges to remain, the mortality is nearly one in nine before they arrive at 50 years of age.

But it is to the loss which England will continue to suffer from the enormous death rate of her soldiery in tropical climates, or in any country where sanatory science is unknown or neglected, that we will, at last, be indebted for the recognition of the proper status of the army medical officer. We will not here bring forward the many instances—they are now matter of history, and our author does well to refer to them—in which the opinion and advice of competent medical officers have been systematically neglected, and, as a direct consequence, the lives of thousands have been sacrificed. We do believe that these days of injustice are drawing to a close.

We speak not of injustice to medical officers personally. Both justice and policy require that if “the difference between officers as combatants and surgeons as non-combatants” is to continue, the greater glory must be awarded to him who, while both are equally exposed to danger, in his zeal and anxiety for the welfare of others, neglects even the ordinary means of self-preservation.

On this point, also, we are satisfied that the wisdom of Bacon’s sentiment will be at length practically acknowledged—“that just laws and true policy have no antipathy, for they are like spirits and sinews, that one moves with the other;” but we speak of the wrong done to the British soldier, and, through his loss, to the British nation, as exemplified in the loss of the Rangoon and Arakan armies, and elsewhere—and as will continue to occur until, in the words of Robert Jackson, “physicians have the place in the councils of military commanders that is due to science.” That time cannot be much longer deferred; and if the rising generation of physicians are not capable of taking their seat at that council board, and retaining it with honour to themselves, and with credit and advantage to their country, it will not be the fault of Sir Ranald Martin.

The contents of this work on the influence of tropical climates are divided into four parts. The first is headed “Climate and Medical Statistics,” and enters very fully into the nature of the climate of Calcutta, with general remarks on the causes of physical climate of Bengal, such as its general and local aspects, position of mountains, geological nature of the soil, the predominant winds, the rains, woods, and marshes of the Soonderbuns, &c., &c. It next

enters on the consideration of "Medical Climate, and Influence of Seasons;" and under this head are introduced three entirely new chapters on the important subjects of the sol-lunar influences, the electrical condition of the atmosphere, and the influence of atmospheric pressure—subjects at all times worthy of deep consideration, but especially so at the present moment, when the attention of the Indian authorities is so much directed to the question of the occupation of the hill ranges as permanent stations for European troops. We have no room here for the discussion of this most important question; but we feel bound to protest against the worse than absurd proposition of Sir William Denison, who, while he would with one hand move the seat of Government from Madras to the Neilgherry hills, would with the other move all the European troops from the hills, and, by giving up their splendid range of barracks, prevent almost a possibility of their return.

The remainder of this part contains much valuable and reliable statistical information on the influence of climate and season in producing sickness and mortality in Calcutta and in the Presidency of Madras; and ends with a few physiological observations preliminary to the consideration of the prevention of disease in tropical climates.

Part II. is altogether devoted to that more noble part of medicine, the prevention of disease; and into the consideration of this subject the author enters most heartily. He seems most fully to agree with Paley, that *health* is the one thing needful, and that therefore "no pains, expense, self-denial, or restraint to which we subject ourselves for the sake of health is too much. Whether it require us to relinquish lucrative situations, to abstain from favourite indulgences, to control intemperate passions, or undergo tedious regimens; whatever difficulties it lays us under, a man who pursues his happiness rationally and resolutely will be content to submit." But, as we already submitted in our notice of the former edition, it is not altogether, or even principally, to the preservation of *individual* health that attention is directed, but to the best mode by which organized bodies of men may be brought to, and kept in, the most perfect and efficient condition. This is a truly noble task for any author to undertake, and one which, if rightly performed, demands no small amount of gratitude.

Many who have thought on such a subject have been deterred from entering into the full consideration of it from feeling that it so abounds with what would be termed trifles that it cannot be made

attractive; but, while our author has not omitted the consideration of any point, however apparently trivial, he has, at the same time, put them forward in the most terse and practical manner. We copy, as an example, his remarks on *sleep*:—

“Whatever may be the opinions of martinets by sea and land, yet it is certain that the refreshment derived from a certain amount of sleep is as necessary to the mental and bodily vigour of seamen and soldiers, as the refreshment derived from a certain amount of food and drink. To the occasional privations of sleep, and to the limited and irregular enjoyment of it at all times, is referred, perhaps with justice, the aged appearance of seamen as compared to soldiers of like ages.

“Where and how to sleep, are the great considerations in the camp; for on the damp and cold soil, or exposed to malaria, disease comes rapidly and fearfully upon the soldier.

“Under hard labour, and on the march, the hour of retirement should be early, say, an hour after supper, so that the soldier may enjoy eight hours of sleep. Before Sebastopol, Mr. Wood states, that while the French soldiers were ‘four nights off duty to one on, ours had about ten hours off to twelve on’—a circumstance which of itself would go far to account for the heavy losses of the British force employed.

“Sick, wounded, and convalescents should be allowed some additional hours of sleep: and so should soldiers who have undergone hard labour and inordinate exertion.

“From the circumstance that during sleep the power of generating heat in the system is diminished, much care should be given to the proper covering and clothing of the soldier, as well as to the condition of the soil; for, in tropical climates especially, it is in the night that the danger of contracting malarious disease is greatest.

“In the West Indian commands, where night duties and night exposure are believed to influence the health of the troops, the British soldier takes his tour of guards or pickets every third or fourth night, ‘and every six hours stands sentry for two hours at a time.’ The fact that the mortality of drummers is greatly under the general average among the rest of the troops, in the command referred to, has been ascribed to their comparative exemption from night duties; but it is probable that causes as yet unascertained operate in aid of the freedom from night duty so as in other ways to favour this class of soldiers.

“Ordinarily, and in time of peace, European soldiers in the East Indies are much exempted from night duties; but when on garrison employments at the head-quarters of the three Presidencies, or when employed at Aden, for instance, the night duties become occasionally heavy. Diseases of the liver and hands are stated by Dr. Arthur to have been much increased in Burmah, in the Madras European Fusiliers, by

the exposure attendant on night duties. He adds, that the men were 'on guard about every fourth or fifth day throughout the year.'

"Throughout the British colonies generally, the men, on an average, have from four to five nights of consecutive rest. In the East and West Indies, where soldiers who are natives of those countries are employed largely, the European should not be placed on guard and on sentry duties without a necessity, especially at unhealthy stations, and in unhealthy seasons."

The following are the well-advised remarks which he makes on the immoderate use of tobacco:—

"Young military men are apt to regard the habit as a manly one, until severe dyspepsia, giddiness, shattered nerves, sallow complexion, disturbed action of the heart, and other symptoms show themselves, and then it is frequently too late to stop.

"Much is talked of the good effects of tobacco-smoking in damp and malarious localities, by persons who, in defiance of geographical differences, carry the habit wherever they go—from the marshes of Burmah to the arid plains of Hindustan, forgetting that, meanwhile, in the language of Cassio, 'they put an enemy in their mouths to steal away their brains;' but I think there is good reason to question the benefits of this habit of smoking even in the fatherland of fog and damp, or that tobacco ever acts as a preventive to any disease, and least of all to fever.

"Damp and cold climates may confer a greater tolerance of, or partial immunity from, the evil effects of the drug, but this is perhaps all that can justly be admitted.

"Of hookah-smoking I need say nothing, as happily its day is nearly gone; but I have seen many cases of severe constitutional and cardiac disturbance from its abuse, with perfect recovery of health on the discontinuance of the habit; the digestive functions, those of the heart and nerves, having been seriously affected in the most inveterate smokers. Of the miseries, mental and bodily, which I have witnessed in the persons of young officers, from the abuse of cigars, I will only say that they very far exceed those detailed in the 'Confessions of an Opium-eater.'

"Many persons flatter themselves that by long use such habits become a harmless second nature—the truth being that they can never become a second nature, *for they have nothing to do with the first*, as has been said of graver matters.

"There can be no question, I think, as to the injuries inflicted on

health by the protracted or excessive use of tobacco in any of its forms. It may assuredly be classified amongst those substances which produce chronic poisoning.

“Mr. Solly, of St. Thomas’s Hospital, regards smoking as the curse of the present age. ‘Amongst the various insidious causes of general paralysis, smoking is one. He knows of no *single* vice which does so much harm as smoking: it is a snare and a delusion; it soothes the excited nervous system at the time, to render it more irritable and more feeble ultimately.’

“That the habitual abuse of tobacco leads certainly to mental and physical degradation is becoming daily a fixed impression in both France and England. In the Ecole Polytechnique and other public schools of France it has been proved that the youths who smoke fall behind in their studies, and that their healths are injured.

“‘A hundred pounds of tobacco-leaf,’ says Professor Johnstone, ‘yields about seven pounds of nicotine. In smoking a hundred grains of tobacco, therefore—say a quarter of an ounce—there may be drawn into the mouth two grains or more of the most subtle of all poisons; and this dose, frequently repeated, cannot fail to injure the strongest constitution.’ This authority adds that, besides this poison, many other hurtful agents and gases are carried into the mouth and lungs in the act of smoking tobacco.

“Dr. Prout states that ‘tobacco disorders the assimilating functions in general, but more particularly, as I believe, the assimilation of the saccharine principle. I have never, indeed, been able to trace the development of oxalic acid to the use of tobacco; but that some analogous and equally poisonous principle, probably of an acid nature, is generated in certain individuals by its abuse, is evident from their cachectic looks, and from the dark and often greenish-yellow tint of their blood. The severe and peculiar dyspeptic symptoms sometimes produced by inveterate snuff-taking are well known; and I have more than once seen such cases terminate fatally with malignant disease of the stomach and liver. Great smokers also, especially those who employ short pipes and cigars, are said to be liable to cancerous affections of the lips.’ Dr. J. P. Murphy states most truly that there is nothing more injurious to a flaccid heart than smoking, many cases being traceable to this cause alone.’”

Having considered in detail how the infringement of any of the natural laws, organic or moral, which connect man with the objects around him is sure to produce an increased rate of mortality in a country in which the military service is “of a severity unexampled in any army that is, or that ever was, in the world;” and having, what is no less important, shown how the observance of these

natural laws may be facilitated and accomplished, this part is wound up with two very practical sections on *The Term of Efficient Service in India*, and *On the Mortality and Management of European Children*. We quote the closing words of each section. As to the first point—

“Finally, and independently of the influences of climate, I believe, with Lord Macaulay, that official aptitude is everywhere acquired at the expense of the general powers, and that in all countries a fixed limit in years should be ordered, beyond which public service should not extend.”

And as to the second point, on which, contrary to all experience, experiments are still made—and, against all well founded hope, hopes of success are still entertained, our author says:—

“On the subject of rearing children in India I would observe that all experience is against it—that it is altogether a cruel and an impracticable endeavour—and that I have seen several deaths result from the unnecessary attempt to wage war with the climate. Dr. Kenneth Mackinnon observes justly of the children of European soldiers in Bengal, that we have proof of the effect of the climate in their early drooping and decay. ‘Even when there is no tangible disease, nutrition and oxygenation do not appear to go on favourably; the skin is pale, the muscles wanting in substance and in tone; the joyous spirits of the children are wanting—the body is inert, the mind listless.’”

Part III. is devoted to the consideration of Acute Tropical Diseases and their Cure. To the very important list of diseases treated of in the last edition there is added a chapter on the *Heat Apoplexy* or *Sun Fever*:—

“Direct solar exposure has been too generally and too exclusively assigned as the cause of this form of disease; but Campet speaks of it, under the term *mort subite*, as resulting in Europeans (given to excesses in eating heavy suppers, and in the use of wine and ardent spirits), during sleep under a high temperature, especially if, by closed curtains, they rendered the imprisoned air polluted and suffocative, thus depraving the circulating fluid, and producing a mortal syncope. In the East as in the West Indies, direct solar exposure is not necessary to the induction of sun-stroke, men confined in-doors during the hot season being also liable, especially under intemperance in diet, and in a calm, sultry atmosphere. The able and experienced Mr. T. E. Dempster, of the Bengal army, speaking of the prevalence of heat-apoplexy in the Mooltan division, under Sir William Whish, in the hot season of 1849, says:—

‘During the first few marches a number of men fell victims to that fearful disease, and it is here worthy of remark, that the fatal seizures usually occurred about three o’clock in the morning, and long before the sun was above the horizon.’

“Dr. Dick, of Bengal, in a letter to Dr. Duncan, published in his Commentaries so far back as 1785, describes this disease as having been prevalent in a detachment of European artillery then serving in the Carnatic. In April, May, June, and July, the land wind blew so exceedingly hot and dry that life was hardly supportable at noon. The cholera morbus, dysentery, inflammations of the liver, and ardent, or what they call bilious fevers, became frequent in camp at this season. A species of apoplexy which seized the men when fatigued by marching in the heat of the sun proved, however, more fatal to the Europeans than any of the above. They complained first of great headache, in a few minutes a vertigo and bilious vomiting came on; they dropped down breathless, turned comatose, and unless immediate assistance was given, the face swelled, and turned almost black; the pulse, which was at first full and quick, sank; and after some hard struggles for breath, they expired. Such is the substance of one of the earliest descriptions of coup-de-soleil in the East Indies.

“The increased feebleness of the heart’s action, as the disease advances, has been noted by several of the American writers; and there can be no doubt that feebleness of the respiratory function advances in corresponding accord, so as speedily to overwhelm the sufferer.”

It is obvious, with such symptoms, that coup-de-soleil does not consist, even in the majority of cases, of a primary affection of the brain, and accordingly we find that the *post mortem* examinations exhibit fibrinous coagula in the heart, extreme engorgement of the lungs, amounting, in some instances, to extravasation of blood or pulmonary apoplexy, the brain being also considerably congested, but in a less degree. Our readers will find the subject most fully discussed—its history, causes, treatment, &c., &c.—and last in order, but first in importance, its prevention.

Thus far the object has been “to explain the origin of those formidable diseases which, under tropical influences, affect the stranger European, and to trace them to the altered physiological actions induced by an unnaturally high range of temperature and other causes which, during a residence generally protracted, disturb the various functions on whose just balance health must everywhere depend.

We come now to the fourth or concluding part, in which are considered the chronic diseases of Europeans on their return from

tropical climates, and their cure. The task laid down in this chapter is—

“To examine the converse of all the preceding—the reverse of everything that holds under tropical influences—to describe the flow and ebb of excitement—the inertia, approaching to a collapse of the various functions of the body, which follows as a necessary consequence of the previous tumultuous action—and to describe both the condition and the treatment of the tropical invalid on his return to his native climate. In short, to trace the peculiar physiological circumstances that have led to the state of ill health common to tropical invalids, and also to explain the real or essential nature of their diseases; and, finally, to detail the special conditions to be regarded in their treatment.”

An accurate perusal of this chapter will well repay all British physicians; for, while many of us may consider that we have no direct interest in the prolongation of life in India, or the treatment of diseases which may occur in tropical climates, we must all expect to be called on to treat invalids who have returned suffering from diseases contracted in those countries.

Where all is excellent it would be easy to give extracts to prove how fully each subject has been considered.

“*Vere scire est per causas scire*” has been our author’s motto throughout. He has, in each case, made a full investigation into the causes, proximate and remote, of each disease which he treats of; and while he gives to pathology and morbid anatomy their full weight and due importance, he is himself guided in his clear and practical remarks on treatment by the quotation which he strongly recommends to his readers, “that morbid anatomy, and even physical signs, are very unsafe guides to trust to exclusively in the treatment of disease. There are symptoms and external signs in fever, for instance, which are more declarative of the true quality of the disease than sounds appreciated by the ear or *post mortem* revelations. The adage adopted by Trousseau, that ‘*naturam morborum remedia ostendunt*’ is to the clinical observer the most practically important.”

We said at the commencement that if Sir Ranald Martin were able to carry out efficiently the programme which he had laid down for himself he would deserve gratitude, and we now return him our hearty thanks for this truly valuable book. Such works as this it was which Dr. Latham—in perhaps the most valuable introductory lecture ever delivered—looked forward to when he said:—“The

medical men of England do and will continue to keep pace with the age in which they live, however rapidly it may advance in the course of improvement."

Traité Pratique des Maladies de l'Estomac. Par T. BAYARD, Docteur en Médecine de La Faculté de Paris, &c., &c. Paris : Victor Masson et Fils. 1862. 8vo. pp. 478.

"WE cannot conceal from ourselves the fact that the diseases of the stomach are still one of the most difficult branches of the art of medicine." Such is the profession of faith with which Dr. Bayard commences his work upon those diseases; and, however we may try to excuse or modify the fact, we must admit that a complete analysis of "the stomach and its difficulties," is a problem which, notwithstanding the labours of so many eminent writers on the subject, continues still a desideratum in medicine. Of late years, several valuable publications have appeared, both in these countries and abroad, in which all the resources of medicine and its affiliated arts have been directed towards an approximate solution of this question; and we receive the present treatise with pleasure as a contribution from a talented member of the Faculty of Paris, in which, without professing any claims to original discoveries, the whole subject has been handled in an acceptable and practical form.

The difficulties which we meet with in exploring the diseases of the stomach are both natural and acquired. The first arise from the wide associations of this organ with the system as the centre of sympathy and support; in the apposite words of the motto prefixed to the present work, "*Veteres stomachum ut regem totius corporis salutabant.*" In addition to this, the aids upon which we rely for diagnosis are as yet very incomplete; though, from the light thrown upon the digestive processes by pathological chemistry, we anticipate that it is to this science we are chiefly to look for future discoveries. Of the *acquired* difficulties, we do not consider the least detrimental kinds to be the influence of ill-founded hypotheses, whose only title to consideration is their novelty, and which the fashion of the day swells out into undue proportions, destined to a total collapse when the taste for them has gone by. These "*systèmes en vogue*" have been noticed by our author in his

preface as impeding our progressive knowledge of gastric diseases. "Les gastrites et les gastralgies" have had their day, it appears, in France; and "aujourd'hui nous sommes dans le courant de la dyspepsie." The consequence of this is, he continues, "that we are insensibly led on to form varieties of it of every kind." But what can be more injurious to any science than too many subdivisions? We thus exalt mere varieties into specific forms, so as to be an incumbrance to us rather than a help. "Dans les sciences, un langage clair est une des premières conditions de leurs progrès." Medical nomenclature ceases to be clear when, as has been observed by an illustrious countryman of our author, Victor Cousin, the ideas which it represents want simplicity, strictness, and precision.

As an exemplification of the inconsequence of establishing divisions upon the predominance of certain symptoms, Dr. Bayard takes *flatulence*. "Every one knows," he says, "that this symptom can arise from muscular atony; from the ingestion of fermentative substances or their chemical decomposition; from a simple excess of food; a too great dilatation of the organ or the reverse; a temporary disturbance of the innervation, &c., &c. We ask," he adds, "is it rational to describe a *flatulent dyspepsia*? The question answers itself; and we may say the same of nearly all the other forms which are most frequently produced by the nature of the ingesta."

We need not take a better illustration than the above of the difficulty of fixing the art of medicine upon a purely scientific basis. Here we find a certain effect, not limited apparently to a single cause, but capable, as far as we know, of being associated with a plurality. Now if, as Bacon seems to suppose, there is but one cause for an effect, which of the above stands to the example given in the light of its efficient cause? May we not, therefore, be acting inconsistently in viewing them all as causes? If, on the other hand, the effect may arise from a plurality of causes, how can we successfully administer a therapeutic agent, except empirically, which should fulfil such contradictory and embarrassing indications?

In perusing the table of contents, we perceive that the author has divided his book into twenty-four chapters. His aim is obviously a wide one, namely, to give a complete account of the stomach, both in its sound and in its diseased conditions. The first nine chapters are occupied with the anatomical and physiological description of that organ: the nature and properties of the gastric juice; the effects of sympathies and moral impressions upon diges-

tion; the state of the urine in certain gastric disorders, and the examination of the leading symptoms, such as—pain, flatulence, pyrosis, rumination, nausea, and vomiting, &c., &c. The six following are devoted to the functional disorders, and contain indigestion, l'embarras gastrique, and dyspepsia, with its varieties. The organic diseases occupy the next seven chapters in order, and consist of acute and chronic gastritis, softened conditions, ulcerations, and perforations, dilatation and rupture, hemorrhages, cancer and its kindred states. A chapter follows upon the nervous affections of the stomach, and the work is closed with a chapter on regimen and alimentation.

In commenting upon this extensive programme, it occurs to us that the amount of consideration given to the several subjects does not bear a suitable proportion to their relative importance and danger. For example, the whole of the organic diseases are included in about a fourth part of the book. We must, however, admit, that much of the symptomatology of these diseases is discussed under distinct and separate heads. This arrangement may be admissible in a work on diagnosis, and we readily grant that very few, if any, of the affections of the stomach possess an exclusive title to any one symptom, so that this class of stomach symptoms may be discussed in a general view, without danger to the unity of each disease; still it is open to the objection that such a course fixes our attention on the symptom more than on the disease, upon the sign more than on the entity; we fear that the admission of this method into works upon the practice of medicine would lead to empirical treatment. We would content ourselves in meeting the urgent requirements of the symptom without taking a comprehensive view of the disease. The author, indeed, perceived that the objection is a feasible one, and he partly anticipates it by explaining why he did so, "*pourquoi nous avons traité de quelques symptômes séparément.*" It is but just to give his explanation in his own words.

"Il est peu de médecins, qui après avoir exercé leur art, même pendant un temps assez court, n'aient été frappés de ce fait: que les symptômes gastriques les plus menaçants et les plus graves en apparence peuvent exister et même durer un temps considérable sans pour cela qu'il y ait autre chose dans l'estomac qu'un simple dérangement fonctionnel; tandis qu'au contraire, on y rencontre les affections organiques les plus formidables sans qu'elles se soient révélées, pendant la vie, par aucun symptôme bien tranché. C'est

pourquoi, sans préjuger de la gravité de certains accidents qui se montrent avec une prédominance tellement marquée ou une intensité si vive que les malades y rapportent toutes leur souffrances, nous avons cru devoir considérer séparément quelques-uns de ces symptômes, en indiquant les meilleurs moyens pour les combattre et cela, au risque d'être obligé de nous répéter plus tard, ce que nous pourrions faire alors, d'une façon plus laconique."

With the preceding general remarks upon the scope of Dr. Bayard's work, we shall make some selections from the more practical parts, as our limits preclude us from undertaking an analysis of all the subjects contained in the volume.

The third chapter contains an account of "the gastric juices," but it is more practical than analytical. He does not enter into the disputed question of the nature of its free acid, he allows it a sort of catalytic action, namely—"That without being efficacious by itself, its presence appears indispensable for the accomplishment of the function." For instance, digestion is interrupted by the neutralization of the acid, and is again restored by setting it free. In experiments made in closed vases, almost any acid, provided it were sufficiently diluted, equally fulfilled the indication.

We are disposed to think that Dr. Bayard rather underrates the rôle performed by the free acid in the digestive process. In the ably conducted experiments of Drs. Bidder and Schmidt, it was found that dilute muriatic acid, which, according to them, is the acid *par excellence* of the gastric juice, dissolved, after 20 hours' immersion, about a quarter of the amount of albumen which the gastric juice dissolved during the same time; the same accurate observers also found that the digestive force of the gastric fluid was in direct proportion to the acid it contained.

Dr. Bayard offers a remark upon the destruction of the solvent property of the gastric juice by high degrees of heat, which has some practical value—"We ought to recommend persons whose digestion is difficult, not to take nourishment too hot, since a heat of 50° centigrade suffices to annihilate the power of the principal agent of digestion, and it is not rare to see some persons taking tea or coffee at a temperature probably much higher.

He offers some indications which may guide us in the administration of the gall of the ox or of other animals as a medical agent. "In the state of perfect health, we never meet with bile in the human stomach, although various causes can make it come there. In small quantity it facilitates the digestion of certain substances,

such as fatty bodies; but if its reflux be considerable, it occasions giddiness, nausea, and vomiting; furthermore, as it neutralizes the acid of the gastric juice, it renders the functions of this last impossible." It has been ascertained by the researches of the same indefatigable observers whom we have mentioned above, that the effect of the admixture of bile with the gastric juice, even though it is not to the extent of neutralizing its free acid, is utterly to annihilate its powers. It would appear from this that the proper indications for giving ox gall would be a super-secretion of gastric juice; the author also proposes to give it to correct the fatty acids, such as the butyric, which can be detected by their odour in eructations.

In the chapter on constipation, he advises the use of the same agent when the constipation arises simply from defective biliary secretion. He gives the following directions for prescribing it in pills:—

"On doit les donner en nombre suffisant pour atteindre la dose d'un demi-gramme à 1 gramme a chaque repas; on y associe contre la constipation, un dixieme de savon médicinal ou de scammonée diagrède, et quand il y a paresse ou relâchement des organes digestifs il est bon d'y joindre quelque extrait amer comme ceux de taraxacum ou de gentiane."

In the same chapter he recommends, in cases of great obstinacy of the bowels, the use of "mèches," smeared with simple cerate, or with cerate to which is added a fifth or sixth part of extract of belladonna. "We have seen," he remarks, "in several cases of stubborn bowels, this practice crowned with complete success."

There are some excellent observations upon the use of mineral waters, and their value in cases of rebellious dyspepsia. As a general rule, too much neglected, he advises us to spare the suffering organ those large quantities of fluid which are wont to be taken at Ems or Vichy, and the greater number of fashionable spas. At Plombières, the means of cure are limited to baths and douches, and with excellent effect. If, after two or three weeks at Plombières, digestion remains laborious, the neighbouring waters of Bussang, used sparingly at meals, will fulfil every indication.

In certain cases of weak digestion the effect of those mineral waters, which are gaseous or slightly alkaline, is improved by the addition of a third or fourth part of wine; for instance, the waters of Bussang, Seltz (of such great celebrity in Paris), and others. They are thus rendered agreeable to the taste, and do not alter the qualities of the wine. Nay, more, he allows the sparing use of

sugar in certain cases. "Some stomachs are all the better for a small addition of sugar, especially when there exists any tendency 'au dévoiement.'" We have often been amused at seeing a novice quietly slipping in a lump of sugar into his brimming beaker when he thought himself unperceived, and evidently congratulating himself on his skill in "doing" the doctor. But if the patient suffer from acid dyspepsia, even this very moderate indulgence must be rigidly denied him—"in that case the strongly alkaline waters of Vichy merit generally the preference, and the sugar ought to be interdicted."

The chapter upon the state of the urinary secretion in gastric ailments is principally occupied with remarks upon the oxalic diathesis. We shall not dwell on it, as the author acknowledges his obligations to Dr. Begbie for much that the chapter contains. We regret to find that the labours of Golding Bird, Rees, Jones, Aldridge, and other successful pioneers in this branch of chemical pathology, seem almost wholly unknown to the writer; but we are bound to thank him for introducing Dr. Prout's treatment of oxaluria more fully to his countrymen.

We turned with some curiosity to the eleventh chapter, "De L'Embarras Gastrique," a name as widely applied in France to stomach affections, as darts to cutaneous eruptions, or influenza, with us, to all forms of epidemic catarrh. Indeed the name "l'embarras gastrique," suggests rather vague conceptions to many persons in this country, and even by some is regarded as a species of myth; however, in the author's description we were glad to recognize, under the disguise of "gastric embarrassments," our old acquaintance, *a bilious attack*, or, as some term it, an overflow of bile. Dr. Bayard divides it into bilious, mucous, and a compound of both, and looks on emetics as almost specific. In cases where this remedy is contraindicated he proposes to substitute "l'emetique en lavage," that is, the emetic in a small dose, and a large supply of the vehicle. For instance, five centigrammes (about a grain) of tartar emetic are dissolved in one litre of veal broth or lemonade, and ten or twenty scruples of the sulphate of soda or magnesia are added. This is to be taken at intervals in doses of a quarter or half a cup—short, however, of producing vomiting.

The author, in his account of acute gastritis, does not distinguish its two typical forms, namely, catarrhal inflammation, a name proposed by Rokitsanski, and acute idiopathic gastritis; the former, in which the surface of the mucous membrane is attacked, and the

latter involving its whole substance. His account of its etiology is very good. One of the direct causes which he notices is the effect of ices taken while the person is in a state of copious perspiration and in an elevated temperature, "some years since a number of persons, during the excessive heat, having partaken of ices at the Palais Royal, were attacked with gastritis of a very acute form; the authorities made inquiries, and the only cause they could discover was the contact of the cold drinks upon the mucous membrane while the body was profusely perspiring."

As our author advises, for the cure of the ailment, iced drinks, slowly swallowed, and ice in bladders, applied to the epigastric region, the homeopathists may quote this as an instance of "*similia similibus curantur*."

We notice his remarks on ulceration of the stomach for the purpose of mentioning an important case described by Dr. Hughes, of London, and quoted by the author in full, as one of the most valuable clinical cases on record. It was a case of perforation of the stomach, treated with opium and absolute rest, after the plan proposed by Dr. Stokes of Dublin, and to which we beg to refer the reader. Dr. Hughes, however, could hardly recognize his cognomen under its Parisian modification of Hugues.

The concluding chapter on dietetics is the most interesting in the volume. He suggests that extensive tables of various articles of food should be drawn up for general use, showing at a glance their comparative nutritious and respiratory properties. In these tables arrow root stands as having one proportion of nutritive material to twenty-six of heat-making—a sufficient condemnation of its extensive use in the nursery. His medical regimen is excellent, though we could, in these countries, scarce stomach his decoction of the thighs of frogs as a delicacy for the convalescent chamber. We shall conclude with an interesting anecdote which is given by him to illustrate the effects of national scales of dietary upon the physical stamina of the people:—"A friend of ours had the medical superintendence of one of our largest lines of railway. The first works were confided to English workmen, and close by French workmen were placed, but it was soon remarked that the first executed as much again of work as the second. There was no possibility of being deceived, for it was task work, and both worked apart on embankments. Much surprised, he says, at such a result, we inquired of our confrere the cause. It was very simple—the English lived on roast beef, and the French only eat soup and

vegetables with a little bouillie. On the French adopting the English diet their amount of work became equalized."

We now take our leave of Dr. Bayard, thanking him for the pleasure we have had in the perusal of his valuable work. We cordially recommend it to our readers, as conveying a large amount of information upon the subject of which it treats, and communicated in a clear and agreeable style.

Clinique Médicale sur les Maladies des Femmes. Par M. G. BERNUTZ et M. E. GOUPIL. Paris: Chamerot. 1862. Vol II. pp. 771.

Medical Clinique on the Diseases of Women. By MM. BERNUTZ and GOUPIL.

IN our February number of 1861, we had the pleasure of reviewing the first volume of the above named work; the second volume is now before us, and we shall proceed to give our readers as careful an analysis of it as it deserves. The first subject treated of, is what the author calls pelvi-peritonitis, synonymous, apparently, with the peri-uterine phlegmon of Nonat, and the pelvic-cellulitis of British writers, which last name he evidently considers utterly inappropriate, as the seat of the so-called peri-uterine phlegmon is not, according to the author, in the pelvic cellular tissue, but within the peritoneal cavity itself, bounded by the agglutinated viscera, and the parietal peritoneum; a pathological fact which he has been able to establish by *post-mortem* examination. Having asserted this much, he at once proceeds to illustrate his position by a number of cases, which occupy, together with his observations on them, no less than 445 pages of closely printed text. The first cases are some of those which he was enabled to examine after death, and as they seem to be of the most instructive, we shall supply our readers with a condensed translation of two of them.

CASE I.—"A girl, aged 18, of lymphatic temperament, who never had suffered from any uterine disease, but, on the contrary, always enjoyed fair health, applied for admission into hospital on February 12th, 1856, in consequence of having contracted venereal. From a variety of circumstances she was able to ascertain with precision that she must

have contracted the infection somewhere between the 20th and 25th of January previous. On the last-mentioned day she remarked that the leucorrhœa, from which she had sometimes suffered, was altered into a thick, greenish discharge, quite different from anything she ever had before. She did not however lay up, or take any care of herself, until compelled by general indisposition, accompanied by sharp pains in the lower part of the abdomen, which were aggravated by walking and by going to stool, which pains had set in about eight days after the invasion of the green vaginal discharge. These abdominal pains becoming worse, as also the pains during defecation, and finding it almost impossible to walk, she applied for admission into hospital, about twenty days after the commencement of the disease. On examination she was found pale, with an anxious expression of countenance, and slightly feverish; no nausea or vomiting; appetite fair. She principally complained of pain occupying all the inferior portion of the abdomen, especially to the left side; this was greatly increased by motion, by pressure near the hypogastric region, and by going to stool; no external tumefaction anywhere; inguinal glands normal, as also the external parts of generation, as well as the anus. The lining membrane of the vagina was bright red, and secreting an abundant muco-purulent discharge, which left a greenish-yellow stain on the linen. The entire of the vagina was of a bright red colour, but free from any erosions. The neck of the uterus was small, conical, and soft, and in its right place; the os was normal, with a very slight erosion on its under lip. On making a digital examination of the vagina, the finger, when directed into the anterior *cul-de-sac*, was immediately stopped by a firm unyielding, rounded mass, separated, however, from the neck itself by a deep sulcus. On carrying the finger round to the left of the neck of the uterus, the same rounded mass was every where met with, filling up the interval between it and the wall of the vagina; it passed right round under the neck, and there terminated suddenly by a bulging extremity, thus enveloping the neck of the uterus for about four-fifths of its extent; all examination of this tumour produced excessive pain, while pressure on that part of the neck of the uterus on the left side, which was not implicated in it, could be well borne.

“The treatment adopted consisted in absolute rest, 15 leeches to the left iliac fossa, a linseed poultice over the whole of the abdomen, middle diet, with wine and milk. The leeching relieved the pain a little, but on examination the tumour could still be found of the same size, and extremely tender to the touch. By the 20th of February, eight days after the patient's admission into hospital, all abdominal pain had nearly ceased, but on the 21st it suddenly returned as violent as ever; the previous plan of treatment was resumed, and, in a few days, the pain was again considerably assuaged. She continued in this state until the

19th of March, when she was suddenly attacked by pleuritis with effusion, further complicated by jaundice. The pleural effusion having rapidly increased, and the patient being in danger of suffocation, thoracentesis was practised on three occasions, to the great temporary relief of the patient, who finally died, however, on the 12th of May, run down by hectic fever and diarrhea. Thirty-six hours after death an examination was made of the body, when the following conditions were found:—the pelvic viscera were all agglutinated by innumerable adhesions of old date, and in the midst of these was a voluminous encysted abscess filled with thick pus, and the outline of which corresponded with the tumour which was felt through the vagina during life. The uterus, although considerably anteflexed, was perfectly healthy, as was also its cellular tissue, and that of both broad ligaments. The ovaries too were healthy, but the right Fallopian tube contained two small collections of pus near its uterine end, while its fringed extremity, which was everywhere closely adherent to the corresponding ovary, was distended with pus of a greenish colour; the left Fallopian tube was also adherent to its corresponding ovary, but contained no pus.”

The author concludes from the foregoing cadaveric appearances, added to the phenomena observed during life, that this case was analogous to one of orchitis in man. The hemorrhagic pus he thinks made its way from the vagina into the uterus, and up through the tubes, until it collected in the fringed extremities of both, when, having burst through the Fallopian extremity of the *left side*, it gave origin to the abscess discovered there after death.

CASE II.—“A young woman, aged 19, who had always enjoyed excellent health, applied for admission into hospital on the 30th of January, 1855, in consequence of a venereal affection contracted some months previously. She suffered from sore throat and pretty severe vaginitis, accompanied by ulceration of the labia, and some slight erosions of the os uteri; the uterus itself was, however, of normal size, and in its right position, whilst no obstruction could be felt in the vaginal *cul-de-sac*. On the 2nd of February she was considerably improving under mercurial treatment, and by the 12th she was fully under the influence of the mineral, when suddenly, on the 13th, she was seized with wandering pains in her back and the lower part of the abdomen, these continued till the 16th, when, after repeated rigors, she was attacked by a sharp pain in the right iliac fossa, which was increased by the slightest motion, inspiration, or cough. The patient lay quite motionless on her back; her face was drawn and anxious; her eyes hollow and sunk; her tongue was covered with a grey fur; she had no appetite, but neither had she any

nausea or vomiting; her bowels were constipated; pulse 108, small and weak; temperature normal; her breathing was suspirious, short, frequent, and superficial, evidently to spare herself the sharp pains which she experienced in the right iliac fossa on taking a deep inspiration. All manipulation of the right iliac fossa was almost interdicted, in consequence of the extreme pain it induced; still, a sufficient examination was made to establish the presence of an oblong tumour, hard and resisting, occupying apparently the site of the right broad ligament. Whilst all examination of the right iliac fossa was so painful, the supra pubic and left iliac regions could be freely manipulated with scarcely any pain. The fundus of the uterus could be felt of normal size. On passing the finger into the vagina, which felt very hot, and on directing it upwards and backwards into the posterior *cul de sac*, a tumour was felt, surrounding the posterior third of the neck of the uterus; it was rounded, firm, and extremely painful on pressure. The treatment consisted in lemonade, 15 leeches over the left iliac fossa, bath, constant poultices, and *no food (diète absolue)*. On the 20th the patient seemed rather better, she had slept, and her face was less anxious and haggard; there had all along been considerable discharge from the vagina, but this morning it had greatly increased, without, however, acquiring a purulent character. A vaginal examination being made with the finger, it was found that the tumour did not descend so low down behind the neck of the uterus, and could be pressed upon without causing pain. By the 28th matters had still further improved, and the womb had returned to its normal place, and the discharge was gradually diminishing, when she was suddenly attacked by small pox, under which she eventually sank on the 27th of March. A carefully conducted *post-mortem* revealed about the same conditions as in the previous case—peritonitis of the pelvic cavity, with great agglutination of its viscera, and pus in the Fallopian tubes; whilst the cellular tissue of the uterus was healthy; it was not, therefore, a case of peri-uterine phlegmon."

We cannot follow the author much further through his 458 pages of cases and observations, by which he endeavours to prove that those peri-uterine tumours, which have been called phlegmon, and supposed to depend on inflammation of the cellular tissues of the uterus and broad ligaments, depend on the effusion of pus or other fluid (generally through the Fallopian tubes, or from diseased ovaries) into the peritoneal cavity, where they give rise to those peritoneal inflammations and consequent agglutinations of the pelvic viscera described above. As for the treatment recommended we cannot subscribe to it, except in very general terms; the author is much too fond of scores of leeches, and *diète absolue*, and we

have no doubt on our minds, that many of the cases recorded might have had a happier issue, but for the heroic Sangrado system adopted.

The second portion of this volume is devoted to the consideration of uterine deviations; we do not find much worth recording in the 300 pages taken up. At page 448 he asserts, that "anteversion is a very frequent condition of the womb in women who have borne children; it produces often no appreciable inconvenience," except, as he says further down, such displacements be accompanied by uterine congestion, or other abnormal condition of that viscus. Lower down he recounts some interesting cases, apparently of engorgement of the womb with excessive mobility, in which there was anteversion in the erect posture, and retroversion when lying down. At page 526 he commences the subject of retroversion in the following words:—"retroversion is very much rarer than anteversion; besides which, it is almost always a symptomatic affection."

. . . . Of 115 hospital patients (*nulliparæ*) admitted into hospital for deviations of the womb, our author found only three suffering from retroversion; and of them one suffered from a uterine polypus, while the other two laboured under retro-uterine pelvic-peritonitis. We cannot agree thus far with Dr. Bernutz, that retroversion is, first, so very rare; and, second, that it rarely occurs except in consequence of uterine polypus, or of peri-uterine phlegmon. No doubt any cause which renders the womb abnormally heavy, will be a likely source of displacement, but we have seen many cases of retroversion, independent of the causes enumerated by the author; and we regret to say, that we have not found this uterine displacement so unfrequent in these countries as it would appear to be in France. The author has an undisguised horror of the hysterometre or uterine sound, and all intra-uterine pessaries; and although he seems to be aware that increased size of the womb is at times a cause of its malposition, he does not appear to be aware of the value of iodine, as a local application.

Dr. Bernutz deserves great credit for the labour he has devoted in collecting cases, not only from his own practice, but from that also of his colleagues and friends, although we do not always draw the same conclusions which he deduces from the facts related. It is to be regretted that his style is so verbose, prolix, and wearisome; and if even a translation of the work should be attempted, we trust that it may be considerably condensed; but all notwithstanding, we recommend the perusal of the *recorded cases* to those who make "Diseases of Females" their special study.

Ueber die Verschiedenheit der syphilitischen Krankheiten. Von PROFESSOR DR. LINDWURM, Vorstand der Klinik für syphilitische und Haut-Krankheiten in München.

On the Diversity of Syphilitic Diseases. By PROFESSOR LINDWURM, Director of the Clinique for Syphilitic and Skin Diseases in Munich.

PROFESSOR LINDWURM, whose position as Physician to the Clinique for Syphilitic Diseases and Diseases of the Skin in Munich give him extensive opportunities of observation, has devoted much care to determining the distinction of the forms of syphilitic disease.

He commences his brochure on this important subject by alluding to the fact of the term syphilis having different meanings attached to it. By some it is applied to chancre (primary syphilis), and the constitutional disease (secondary and tertiary syphilis) which, according to their views, spring from it. Others employ the word in a more limited sense, restricting it to the constitutional disease, in contradistinction to simple chancre and gonorrhea, which they look upon as local lesions. By others, again, the term syphilis is used as of similar signification with the almost obsolete "venerie," and under this general name include the three diseases, as gonorrhea-syphilis, chancre-syphilis, and constitutional-syphilis. In this general sense syphilis is used by the author. Gonorrhea he dismisses altogether, as it requires no proof to determine that it is a disease altogether different from chancre and constitutional syphilis; conflicting opinions, however, exist as to the two latter. Some (the "Unitarians") holding that chancre and constitutional syphilis are *one*, and are produced by the *same* poison, while others (the "Dualists") contend that there are two different poisons and two distinct diseased states depending on them. To settle the disputed point as to the identity or diversity of the diseases is the object which Dr. Lindwurm has endeavoured to attain by his carefully conducted clinical researches.

He first describes *local chancre-syphilis*. There are chancrous ulcers, which, according to the doctrine of the "Dualists," are *never*, and according to the "Unitarians" seldom, followed by constitutional disease. These are the simple or soft chancres; they occur soon after the poison is brought in contact with the part—from one to two days after it is introduced by the lancet under the skin, or

by coitus brought in contact with an abraded surface, or by any other means. The simple chancre extends its influence only to the neighbouring parts in the form of lymphangitis, adenitis, with infiltration of the cellular tissue, and formation of abscess. All these consecutive diseased conditions present the same virulent character; the secretion, or the purulent matter of the lymphatic glands and cellular tissue, has the same effect as the secretion of the original ulcer, and is capable of exercising its influence on the healthy or on the locally or generally syphilitic.

These diseased conditions may continue weeks or months, and give rise to the most serious disturbance; but still there is no general contamination of the system. The *constitutional* syphilis is then contrasted with the former.

It is also a communicable disease, according to Dr. Lindwurm; but, as its name implies, of a general nature. It infects the whole organism, depositing its products in almost all tissues and organs of the body—lymphatic glands, skin, mucous membrane, cellular tissue, bones, periosteum—the different organs, brain, eye, liver, lungs, kidneys, testes, &c. Constitutional syphilis, as *such*, is propagated from the diseased to the healthy. Clinical experience and experiment have established the contagious nature of the disease. Not merely are the products and secretions of lues capable of communicating the disease, but the blood also, and possibly the seminal fluid. Hereditary syphilis affords proof of the transmission, by the blood, of the poison.

How long the communicable character clings, and whether the slow, so-called tertiary, forms can be transmitted, are still unsettled points.

The *possible* transmission of the poison of syphilis by the vaccine matter, or at least by the mixture of blood with it, would seem to be proved by the distressing event at Rivalta. Three weeks after vaccination syphilis appeared in 46 children.

Dr. Lindwurm looks upon the researches and experiments of Waller, Rinecker, Hübner, and the much earlier investigations of Wallace of Dublin, as having established the contagious quality of constitutional syphilis by the most irrefragable evidence. He has himself enjoyed the opportunity of witnessing the transmission of constitutional syphilis, in five cases, by means of inoculation. In all respects the phenomena agreed with those observed by Wallace, Waller, Rinecker, Hubbenet, Von Barendsprung, and others. In observing the effect of inoculation of constitutional syphilis and

simple chancre poison the following characters are relied on to establish a fundamental difference:—1. Between the inoculation of constitutional syphilis and the first manifestation of the diseased action at the site where the poison is introduced there is a longer interval—on an average three weeks; the long incubation stage then contrasts remarkably with the almost absence of it after the virus of simple chancre. 2. The poison of constitutional syphilis appertains, not merely to the pathological products of disease (ulcers condylomata, &c.), but also to the physiological formations (blood, semen). The poison of simple chancre confines itself to the secretions of the virulent ulcer. 3. The primitive forms at the site of introduction of the poison show the most striking difference. The simple chancre begins as a vesicle or little pustule, distinguished by destruction of tissue, disposition to formation of matter, and its rapid course. This is the chancre *κατ'εξοχην*—*ulcus syphiliticum virulentum*. The constitutional syphilis presents, from the first, a more chronic course—the formation of a circumscribed papule with little disposition to spread by ulceration, its development depending on the nature of the tissue, on the form, depth, and size of the infection-wound, on the condition of the patient, and on the treatment employed; left to itself, not cauterized, it extends slowly, not secreting pus, but casting off scales, and finally presents the appearance of a firm, dry tubercle. In other cases, when the primitive papule is seated on moist parts of the skin, and subjected to irritation, it passes directly into the broad condyloma. This occurs much more frequently in the female than in the male. Dr. Lindwurm would expunge the word chancre from the nomenclature of constitutional syphilis. It should be confined altogether to the soft, simple, virulent, syphilitic ulcer. The indurated ulcer is but a symptom of constitutional syphilis—and the first; but it should be remembered that the disease may develop itself without an ulcer—tubercles, mucous papulæ, and broad condylomata being the primary forms. The poison of simple chancre seizes upon the syphilitic as well as the untainted. A person labouring under constitutional syphilis cannot be infected a second time until the syphilitic diathesis is extinguished. The same holds good in respect to it as measles, smallpox, and scarlatina. It happens sometimes that an individual who has been cured, but who still bears the marks of constitutional syphilis, again takes in the poison, which manifests itself by indurated ulcer, swelled glands, and roseola.

An interesting point is the fact that there are persons who enjoy a

complete immunity from the disease. What an enviable gift to some ! Dr. Lindwurm records one remarkable instance of this in the person of a female who underwent no less than 11 inoculations with virus of simple chancre, in different parts of the body, with negative result. Whether the same immunity exists as to constitutional syphilis he is not prepared to assert, but he believes it likely.

The next subject discussed is the possibility of a double infection, the result being a mixed chancre. There is no positive proof of the simultaneous infection of one wound with the two poisons; but it may be considered physiologically as possible as the simultaneous introduction into the system of syphilis and vaccinia. As a person can be infected with the two poisons on different parts of the body—the mouth, for example, with constitutional ulcers, the genitals with simple chancre—so can two poisons be introduced by one and the same wound. In such a case the simple chancre ulcer would appear at the site of inoculation; and, after the incubation stage of constitutional syphilis (three to four weeks), the specific induration would set in.

Dr. Lindwurm states that he has under his care a case which illustrates this: a man who, after coitus with a woman labouring under simple chancre and constitutional syphilis, presented, immediately after connexion, the simple chancre, and, in the course of some weeks, the indurated ulcer.

Touching the diagnosis, the author believes that syphilitic ulcers are not to be diagnosed by their appearance and by the feel alone. Inoculation is a valuable but not an absolute diagnostic means.

The conclusions which Professor Lindwurm arrives at are opposed to the views of Ricord and his followers; he supports his theory, however, by well and carefully recorded cases, and with much ability. The learned author is a man who possesses no ordinary talent; and, moreover, is endowed with energy and zeal in the pursuit of knowledge, as we ourselves can testify, from the manner in which, some years since, he devoted himself to the investigation of typhus fever in Ireland.

I. *Selected Monographs.* 1. Czermak on the Practical Uses of the Laryngoscope. 2. Dusch on Thrombosis of the Cerebral Sinuses. 3. Schroeder Van Der Kolk on Atrophy of the Brain. 4. Radicke on the Application of Statistics to Medical Enquiries. 5. Esmarch on the Uses of Cold in Surgical Practice. New Sydenham Society. Vol. XI London: 1861.

II. *Introduction to the Art of Laryngoscopy; a New Method of Diagnosing Diseases of the Throat and Larynx.* By JAMES YEARSLEY, L.R.C.P., Edin., M.R.C.S., Eng. London: 1862.

THE contents of the volume of *Selected Monographs* are sufficiently indicated by its title page, and, coming out, as it does, under the imprimatur of the New Sydenham Society, it claims, and shall receive at our hands, an attentive perusal. We shall notice the essays in the order in which they stand, and first of Professor Czermak's "On the Laryngoscope, and its employment in Medicine and Physiology."

In the preface to the English edition, the author says:—

"The following pages are, as near as possible, a literal translation, by Dr. G. D. Gibb, of the French edition of my German brochure, translated by Dr. L. Mandl, of Paris. I have enlarged the present work by the addition of an appendix on Rhinoscopy, together with some notes and sketches." His object he states will be accomplished "when the laryngoscope is brought into daily use, like the ophthalmoscope, the speculum vaginæ, the stethoscope, and other instruments; when everywhere, even a few physicians shall be found, who understand the management of this simple instrument in a dexterous and successful manner; and when others, as has, in some measure, already been done, roused by my efforts, shall try to apply the principle of Liston and Garcia in all the most varied directions of which it is capable."

Chapter I. is taken up with the history of the laryngoscope, and, in connexion with this we shall notice Dr. Yearsley's pamphlet of 15 pages.

It would appear that Dr. Türk of Vienna, in the first instance, made some fruitless experiments, and then *lent* his instruments to our essayist, who tried his hand with long continued application and complete success; the usual result ensued—a squabble about the right of *invention*—in this matter, and the profession are favoured

with the correspondence on this subject. We have read these letters, as also the "Bibliography," or list of laryngoscopic literature, at the close of the chapter; and as between Drs. Türk and Czermak we do not hesitate to endorse a quotation given in the preface to the German edition of this essay:—"That we do not consider him as the inventor, in the real and beautiful sense of the word, who first conceives and partially carries out an idea, and then lays it aside, without even a presentiment of its importance; but him, on the contrary, who first discovers the practical application of the idea, even when it has originated elsewhere, and helps towards its public recognition."

Now, as to Dr. Yearsley's pamphlet, we do not see what occasion there is for it. It professes to be "An Introduction to the Art of Laryngoscopy, &c.," by J. Y., whereas it really is no such thing. It has not a particle of originality—of originality even in the most lax sense of the term; and, appearing as it does so soon after Czermak's publication, this is an inexcusable defect. To be brief, it commences thus:—

"Several of my medical friends, who remember the perseverance, industry, and great ingenuity of my relative, the late Mr. Avery, surgeon to the Charing Cross Hospital, are of opinion, that it is due to his memory to substantiate his claims to priority in the invention of the instrument now termed the laryngoscope."

The history of the invention which, we have seen, Dr. Türk attempted to apply, and has since been worked out by Professor Czermak, is stated by Dr. Yearsley, as follows:—

"In 1840 Liston makes a suggestion often and often acted on before.

"In 1846 Avery invents an instrument, specially devoted to the exploration of the larynx, and uses a lamp (also his own invention) specially intended to light up the laryngeal mirror, when in use.

"In 1855 Garcia relates that he has adopted a similar apparatus for the same objects."

If a man contrives an instrument, as Avery did, and does not inform his profession of his contrivance, as Avery did not, we do not think he can be fairly set down as an inventor in preference to one who, at a later period, in ignorance of the earlier designer's very existence, as in this case, adopted an analogous idea of another, and worked it fairly out. Thus did Czermak, and he also

published to the world the results of his discovery. James Watt generally gets the credit of inventing the steam engine, but what if a recent suggestion in *Notes and Queries*, that one of the Pharaohs sailed a steam boat on the Red Sea, prove to be a historical fact? Pharaoh may have known or invented the steam engine; Watt also knew and invented it, and he published his invention and worked it out before the world. Shall Pharaoh take the laurel from Watt? Certainly not.

Dr. Yearsley says (p. 8):—"The term laryngoscope in lieu of throat speculum, came into vogue after the invention of the ophthalmoscope. In like manner when Avery's catheter comes into use, for viewing a stone in the bladder, I presume it will be called a vesicoscope." For the honour of a learned profession we should hope not; the first two words are Greek compounds, the third, as proposed, is a very unclassical mixture of Latin and Greek. The remainder of Dr. Yearsley's pamphlet is simply a notice of Czermak's laryngoscope; of what Czermak has done with it; and his (Dr. Y.'s) opinion that it is an admirable instrument in hands so experienced as his own. He "endorses" Czermak's treatise, but does not give particulars of any cases treated by himself. He says, "my own personal experience of its use will be given at no very distant period." We leave the reader to judge how far such a title as "Introduction to the Art of Laryngoscopy; A new Method of Diagnosing Diseases of the Throat and Larynx. By James Yearsley, &c.," is justified by the contents of the pamphlet. At best it reads equivocally, and may be fairly taken to mean, that the "new method," is an invention neither of Avery nor of Czermak, but of Yearsley. In fact it is one word for Avery, two for Czermak, and three for Dr. Yearsley himself.

In Chapter II. Czermak describes "the mode of examination of Liston and Garcia," and gives this quotation from the latter:—

"The method which I have adopted is very simple; it consists in placing a little mirror, fixed on a long handle, and suitably bent, in the throat of the person experimented on, against the soft palate and uvula. The party ought to turn himself towards the sun, so that the luminous rays falling on the little mirror may be reflected on the larynx. If the observer experiments on himself, he ought, by means of a second mirror, to receive the rays of the sun, and direct them on the mirror which is placed against the uvula."

In Chap. III., sec. i., he describes his laryngeal mirror; and in

sec. ii. he gives his reasons for preferring artificial light—by means of a lamp of his own invention—to the sunlight recommended by Garcia. In a lecture, recently delivered by M. Lindwurm before the Medical Society of Munich, the opinion is advocated that sunlight is superior to artificial light, especially in operations where such an apparatus as that of Czermak would be very inconvenient. The fact is, there is much to be said on both sides; but in our opinion Czermak's view is the more practical, and certainly the more scientific of the two.

In sec. iii. he treats of "autolaryngoscopy," any description of which we must not attempt. The reader should refer to the excellent plates and clear directions given in sec. iii., to form a fair idea of the essayist's wonderful ingenuity, and intense application. At the same time we must remark, that it is the least practical part of the treatise; for few throats have the schooled pliability and endurance of Czermak's; and the object of the invention is not so much that a medical man should experiment on himself as that he should exercise his art for the good of the suffering public.

Chap. III., sec. iv.—*Of the examination made upon others—*

"The observer is seated in front of the person to be examined; he places in his mouth the handle which supports the illuminating mirror, and looks through the central opening; the laryngeal mirror, introduced into the back part of the mouth with the right hand, is illuminated by the light which is projected from the illuminating mirror; the left hand can be placed upon the shoulder of the person examined, and steadies the chin and nape, or in holding a tongue depressor which, we can often trust to the patient himself. In the first place the illumination of the back part of the mouth and the mutual position are regulated; then the laryngoscope is heated, and its temperature regulated by the touch. After these preliminaries are gone through, we request the patient to open the mouth wide, and alternately to inspire deeply, and to pronounce the sound *ah*; during this, we endeavour to place the back of the laryngoscope against the uvula and the velum palati, to sustain these parts a little, and to give to the mirror a convenient inclination; at times it is impossible to avoid touching the posterior wall of the pharynx—the examination is directed by the image we thus obtain."

To this Dr. Yearsley adds:—"Since the publication of the foregoing directions, Dr Czermak, at the suggestion of Dr. Stoerk, of Vienna, is in the habit of holding the tip of the tongue in many cases, instead of using the tongue depressor."

Sec. v. treats of Rhinoscopy; and, with the Appendix, which should be read with sec. v., is a valuable brochure on the application of the principle of the laryngoscope to the inspection of the pharyngo-nasal vault, and of the posterior orifices of the nasal fossæ. Czermak gives a number of cases treated by him on his rhinoscopic method.

Sec. vi. of chap. III. is of the local treatment of the larynx, and consists of only a few paragraphs. However, in a paper in the *Medical Times and Gazette*, for May 6th, 1862, he enters more at length into this most important part of the subject.

Chap. IV. consists of "physiological observations" concerning "the internal arrangement of the larynx during respiration;" and "the mechanism of closure of the larynx;" and chap. V., entitled "pathological observations," gives an account of twenty cases treated by him.

From the English medical journals we learn that Dr. Czermak has recently visited London, and exhibited the principle and practice of his instrument at the various hospitals, besides adding numerous cases to those above referred to.

If professional ability, untiring application, and unquestionable genius, can recommend any man to the favourable opinion of his brethren, we are sure they must do so in the instance of Professor Czermak, who has shown the modesty of true genius in the manner in which he has committed his essay to the public. There is, perhaps, a little overwordiness in its style; but this is one of the nationalities of "the children of the mist."

Dr. Gibb has done the work of a translator with much credit, and has presented to the English reader a very readable monograph.

The next monograph is that "*On Thrombosis of the Cerebral Sinuses*;" the author thus remarks:—

"A slight glance at the history of the formation of coagula in the veins shows that it is closely connected with that of phlebitis; and various views have prevailed in reference to their origin. The clots having at first (Hunter) been regarded as an exudation upon the inner surface of inflamed veins, it was afterwards ascertained that they are true coagulations of blood, and the notion that coagulation of the blood in the veins is the immediate consequence of phlebitis, which was supported by the authority of Cruvelhier, prevailed generally. It was reserved for Virchow, in his classical work on thrombosis, to clear up the matter, and to show that in a large number of cases the coagulation of

the blood in the veins precedes the inflammation in them; while primary phlebitis, with subsequent coagulation of the blood, much more rarely occurs."

The essayist then proceeds to discuss the circumstances which chiefly cause coagulation of the blood, and the localities in the body which principally favour its retardation, and consequently its coagulation during life; he treats of the diseases which, causing a diminution of the mass of the blood generally, must have a similar effect, and observes—"It frequently happens that several of these circumstances coincide and support each others influence, and among these I would specially allude to profuse fluid discharges, which cause simultaneously a diminution of the mass of the blood, a thickening of the same, and a decrease in the power of the heart."

The essayist now enters particularly into his subject, and considers it in three sections, headed as follows:—

I. Thrombosis of the sinuses from inflammatory processes in the neighbourhood of them.

II. Thrombosis of the sinuses in consequence of a diminution of calibre from intrusion of foreign bodies and from compression.

III. Thrombosis of the sinuses from debilitating influences.

He gives 57 cases, and divides their "causation" thus:—"In 32 the thrombosis was the result of gangrenous, erysipelatous, and suppurative inflammations of those parts of the body whose vessels are in close connexion with the sinuses;" in four from the cause discussed in sec. ii.; in 15 from the cause referred to in sec. iii. "Lastly, in six cases nothing positive as to the cause could be ascertained from the history." The detailed cases occupy a large part of the essay, and towards the close the writer "sums up" the judicial findings or logical conclusions arrived at in a very scholar-like manner, and one which we commend heartily to the profession. This feature redeems the style of the essay from diffusiveness, a very common fault with medical writers. There can be, in our opinion, no question as to the professional value of the treatise—a value which we will not mar by quoting cases, or by giving extracts from a chain of reasoning which is neither superficial nor obscure. The most practical and useful part is sec. iii.; in it are included many of the most commonly-occurring ills of the flesh, and with regard to this section—and indeed to all the rest of the essay—the professional learning and full reading evinced by the writer cannot be too highly appreciated.

The third paper is entitled "*A case of Atrophy of the left hemisphere of the Brain, with coexistent Atrophy of the right side of the body.*" Since this has appeared, its learned author has departed this life, leaving to the profession, of which he was an eminent member, many published proofs of his ability and learning.

The essay before us is decidedly superior in style to the two preceding; its sentences are better written and much more intelligible; and even the descriptions of the most difficult parts of the subject are clothed in elegant phraseology, of which much is doubtless due to the practical pen of the translator, Dr. William D. Moore.

Some years ago, Professor Schroeder Van Der Kolk, received for dissection, the body of an idiotic girl. He opened the skull carefully, and discovered an astonishing amount of atrophy of the left central hemisphere, combined with abnormal thickening of the bones of the skull at the atrophied side. He describes, minutely, the comparative states of both cerebral hemispheres, and then states that "in the cerebellum, on the contrary, the atrophy was on the opposite side, the right hemisphere being in all its measurements less than the left." And, again—"below the decussation, the atrophy of the left hemisphere has transferred itself to the right side of the spinal cord, as well as of the cerebellum; the atrophy of the right side of the cord was very evident at the level of from the fifth to the seventh cervical vertebra." In order to spare the skeleton, which proved useful afterwards, the spinal canal was not further opened, but the essayist found the roots of the fifth, sixth, and seventh cervical nerves on the right side reduced in thickness and size, particularly in the fifth and sixth, and the ganglia on a level with the brachial plexus; and is not aware that any previous author has directed attention "to this difference in thickness of the spinal cord and plexuses on the side opposite to the cerebral atrophy."

After referring to the difference found between the two sides of the skull, he enters minutely on the unilateral atrophy of the rest of the body, mentioning particularly the superior extremity on the right side, the atrophy diminishing from above downwards and being least marked in the leg and foot. The essayist also investigates recorded cases of a similar or analogous kind, in most of which the examination was only partial, in some extending no further than the brain; and he shows that atrophy of the corpora striata and thalami "is the most frequent attendant on wasting of the cerebrum." He does not regard this morbid condition as a

congenital defect, but considers it to result from cerebral inflammation occurring before or after death.

Respecting the symptoms produced by this unilateral atrophy of the brain, he observes:—

“They manifest themselves partly in the more or less defective exercise of the mental powers, and partly extend their influence, as I have shown at length in the above case, over the rest of the body. That in atrophy of one-half of the cerebrum the psychical powers should be blunted or paralyzed, might perhaps be assumed as generally true (and in fact such atrophy is most usually met with in idiots); still it is far from being universally the case, for although in some instances mention is made of rather blunted mental powers, examples also occur where with atrophy of one hemisphere, the intellectual faculties appeared to be in their normal condition.”

He quotes some examples of undiminished intellectual power with one half of the brain atrophied, and affirms that this condition can only exist—and may be reasonably expected to exist—where one hemisphere of the brain is healthy. Just as with one sound eye a person may see very sharply, though the other be lost. “But where the gray matter is injured in both hemispheres, particularly anteriorly, disturbance of the intellectual faculties will be inevitable.” We cannot quote any further from this essay, but we recommend for perusal, especially, the writer’s remarks on the ganglia in the sensitive nerves, and his curious investigations respecting the osseous and muscular degeneration caused by the nervous atrophy; also the table of measurements of these parts.

Although the learned essayist rejects the idea of Cazauvielh—the congenital defect theory—yet it is curious that the very case on which he has founded his most able paper, should, judging from its details, bear a very strong resemblance, to say the least of it, to a case of congenital defect. Besides the table of measurements already referred to, there are four very clear plates; but, in order to understand them, the reader should correct two mistakes on p. 135, as follows:—For Fig. iii., in the text, read Fig. iv.; and for Fig. iv., read Fig. iii. Much confusion and waste of time will be saved by these emendations.

The fourth paper is a very lengthy one “*On the Importance and Value of Arithmetic Means*,” by Professor Radicke, of Bonn. Our profession has ever been open to the sneer of mathematicians, that medicine is not an “exact science;” and we must, in part,

admit the truth of this assertion; for not only do different observers deduce conflicting conclusions from the same facts, but radically different statistical accounts of the same occurrences are occasionally presented to the public by physicians of equal judgment and ability. Professor Radicke says—

“It is due to my friend Dr. Boecker to state, that the present paper has been undertaken at his instance. Dr. Boecker has on several occasions submitted to me recent papers of a pharmacological nature, with the view of obtaining from me a confirmation of his opinion, that great want of caution is frequently exhibited in drawing inferences from observations; and he at length has requested me to assist him in stemming the stream of baseless, and, to a great extent, erroneous doctrines which daily threaten to overwhelm medical science. With this object in view, I propose, as one who is acquainted with mathematics and physics, to whose province the treatment of questions of this kind belongs, to provide medical men with a ready test by which they may themselves try the accuracy of the conclusions at which they may arrive. I cannot, however, promise to give them an absolutely unvarying and accurate test, since, for the cases contemplated in this paper, such a test does not, and probably never can, exist. All that I can offer is the test which I myself consider a sufficient one in investigations of this kind, and on which my requirements will be based.”

Here we see that the author does not aim at the attainment of “exact science;” for he does not, with reference to his subject, believe that possible. He only aims at approximation to it, and the nature of that approximation he dilates on in a very elaborate paper; and although he may call his method “a ready test,” and, in the conclusion, express his belief that he has exposed, “in a way that will be intelligible to medical readers who are not proficient in mathematics, the principles upon which conclusions should alone be deduced from any given series of observations,” yet, we think the very class for whom he has intended his paper will utterly fail to appreciate its worth; for the fact is, that, except to one who is to some small extent a “proficient in mathematics,” his reasoning and symbols will be alike unintelligible.

The last essay—“*On the use of Cold in Surgery*”—is one of the most important, if not altogether the most important, in the volume under consideration. It is not even so limited in extent as its title would indicate; for it touches on most common cases in medicine as well as in surgery; and while the author expects

opposition to his views, he states them with the confidence of one who believes what he writes, because he has tried his principles with success.

He gives a short history of the use of cold as a medical or surgical agent from Hippocrates to Larrey and Guthrie; and having stated that it was always a favourite remedy with military surgeons, in opposition to the generally received opinion of their civilian brethren, he says—"according to my own experience, I believe cold to be the most important and most powerful antiphlogistic remedy." As to the causes of professional opposition to its use, he observes—"I feel justified in stating, that most of the opponents of cold are adverse to it only because they have never used it, or have never seen it used in a pure and judicious manner." And he remarks, that the general way in which "cold compresses" are used would serve to justify this statement. The essayist discusses the respective advantages of wet and dry cold applications, and inclines, in most cases, to the latter, in the shape of ice enclosed in India-rubber sponge bags of *American* manufacture.

In cases where wet cold may be considered necessary, he places the greatest importance on the temperature of the water, and shows, that where water at 45° Fahr. may cause gangrene, water at 77° or 94° will act antiphlogistically with much advantage. He gives plates of a bag, fashioned by himself, to contain a freezing mixture. In this the principle is merely to tie the neck of the bag tightly round a wooden stopper, instead of closing it with drawing strings. He also gives diagrams of vessels moulded to fit the spine and the extremities.

When remarking on the difficulty in determining how long we ought to proceed with the application of cold in a particular case, he observes:—"But it is certain that the use of cold is not indicated in the first stages exclusively of acute inflammation. The setting in of suppuration is by no means a reason for discontinuing the abstraction of heat, nor is even the occurrence of gangrene, if it be caused by the severity of the inflammation. These processes, on the contrary, run generally a much more favourable course under cooling treatment than under the so much bepraised use of cataplasms. Generally we may be guided by the feelings of the patient." Professor Esmarch has also used cold with great advantage in chronic inflammations.

After recounting what he has seen in his visits to the civil and military hospitals in Paris, he concludes his paper with an account

of twenty cases in which cold was used on his principles. Several of these were bad fractures and diseases of the joints: some, of injuries to the eye, for which he has devised a mode of applying cold by a bag of his own invention; a case of cynanche tonsillaris and several of acute rheumatism wind up this interesting essay.

Are we called to give an opinion of it? What shall we say then? Here we have an advocate for cold water, elsewhere one for hot water, a third for the Turkish bath. Dr. Esmarch thinks inflammation is a fire; and of course what better method of putting out a fire than pouring cold water on it? For putting out a fire, doubtless, cold is better than hot water, although the latter will do the work also. But what if inflammation be not a fire, not an exaltation of the vital forces, but a disease of nutrition, a depression of the powers of life? Dr. Hughes Bennett adheres to this latter view, and so did Dr. Todd, when he helped the exaltation of the vital forces with brandy. However, Professor Esmarch, unlike those who puff the Turkish bath as a cure for all mortality, thinks the use of cold should be tempered by discretion, experience, and the thermometer; and we fully agree with him, that the feelings of the patient may, in general, be a safe guide to the perhaps too ardent surgeon.

Our view may be best expressed in the words of the satirist:—

“Est modus in rebus, sunt certi denique fines,
Quos ultra citraque nequit consistere rectum.”

On the growth of the Recruit and Young Soldier, with a view to a judicious selection of “Growing Lads” for the Army, and a regulated system of training for Recruits By WILLIAM AITKEN, M.D., Prof. of Pathology in the Army Medical School, &c. London: Griffin & Co. 1862. Fcap. 8vo, pp. 72.

WE are always glad to welcome any addition, however small, to our military medical literature. This field of scientific knowledge is an important and extensive one, and the labourers in it are but few.

The little book before us on the Growth of the Recruit, is in the form of an introductory lecture delivered by Dr. Aitken, Professor of Pathology in the Army Medical School at Fort Pitt, at the commencement of the session in April last; but before entering

on a consideration of the work itself, it will not be out of place to give some account, founded on personal observation, of the institution in which the author holds a prominent and important position—an institution in which the public career of those entering the service of the Queen is commenced, where they are initiated into the duties they will be hereafter called upon to perform, and taught the outline, at least, of those important subjects, the pursuit or neglect of which will make or mar their efficiency.

It is not too much to say that, before the establishment of the Army Medical School, the young surgeon entering the army was almost wholly ignorant of the duties he had to perform beyond those of professional practice, and was often placed at once in positions of considerable trust and responsibility with nothing to guide him but an effete and meagre code of regulations and his own genius. Having received no special instruction beyond a few weeks' superficial training in the wards of Fort Pitt Hospital, however well he might have studied, and however deeply he might have been versed in the theory and practice of medicine and surgery, he knew nothing of the specialities requisite to make an efficient army surgeon.

The Crimean war showed clearly how necessary it was that the young officer entering the service should receive a special education in addition to the purely professional one taught in the civil schools, and led to the establishing of the Army Medical School at Fort Pitt. The courses of instruction in this school are in the following subjects:—hygiene, military surgery, military medicine, and pathology, and they occupy a period of four months, at the conclusion of which examinations are held, and the vacant appointments in the service filled up; the most desirable being given to the candidates who have evinced greatest proficiency in their studies.

Of these by far the most important is hygiene, for the great duties of a medical officer is to *prevent* disease; and an intimate acquaintance with the laws of health, and with every circumstance bearing upon the sanitary condition of the soldier, is of the greatest moment. This branch is most ably dealt with by Professor Parkes, who enters into every question bearing upon the health of the soldier at home and abroad. The water he drinks, the air he breathes, his food and clothing, his accommodation in barracks, in hospital, in the field, on shipboard, and under every circumstance and position in which he can be placed. In addition to the lectures delivered by Dr. Parkes on these subjects, almost every question

is practically worked out by the students in the laboratory under the professor's direction. Water is analyzed, and its various impurities detected; experiments are made upon the air of wards and barrack-rooms, and the students are taught practically how to estimate the condition of the atmosphere in which the soldiers under their charge exist; and this is not mere scientific amusement so to speak, for the questions examined, and minutely and carefully examined, in the lecture-rooms and laboratory of Fort Pitt are of grave importance to the health of our army.

The lectures on military surgery and medicine by Professors Longmore and Maclean, are of a very practical character, and are well calculated to prepare the young medical officer to meet the exigencies of the field, and to deal with the rapid and deadly epidemics of tropical disease. These lectures are illustrated by specimens from an extensive and well-arranged pathological museum, and from the museum presented by Mr. Tufnell, containing models and specimens of the equipments used in field service, and the various departments of military surgery.

The department of pathology is under the direction of Dr. Aitken, the author of the work before us; *post-mortem* examinations are conducted by him, and the morbid appearances explained. In connexion with this department there is an excellent and well-lighted room, provided with 25 of Smith and Beck's microscopes, and a systematic course of instruction in microscopy is carried on during the session.

Doubtless it was from Dr. Aitken's observations in the mortuary of Fort Pitt, where too many fatal proofs of the folly of early enlistment, bad ventilation, and injudicious training are to be seen, that he was impressed with the importance of showing, upon sound and scientific principles, the error of admitting *boys*, and not men, into the ranks of the army, and the necessity of attending to the due concurrence of *age*, *weight*, and *stature* in the selection of recruits, and the danger of urging on too rapidly the training of young lads, showing, from the condition of the skeleton at different ages, that they are unable to bear the usual system, the importance of which is clearly shown by the invaliding returns of the army, and still more sadly and painfully by the young victims of disease who die in, or are discharged from, Fort Pitt Hospital annually.

We will quote but one paragraph from this work:—

“As the twig is bent, so the branch will grow. I have shown you that till the twentieth year of life the ribs behind are still unfinished,

soft at their joint ends, where resistance and motion occur, and where they are still growing. The breast-bone in front is in a similar condition. It is obvious, therefore, that continued pressure upon these parts from before and from behind must exercise a material influence in fixing the future form of the chest. The cartilages of the ribs in front and the breast-bone ought to have full freedom to rise upwards and advance forwards at every inspiration, for thus the diameter of the chest, from before and behind, is naturally increased at every act of breathing. Any pressure on the chest, therefore, exerted between the front aspect and the back, when the bones are still growing, must *tend to set* the further growth of the bones in an unnatural direction; for, in order to maintain the vital capacity of the lungs, the capacity of the chest cavity from side to side must come to be increased, at the expense of the capacity in the other and normal direction. The capacity of the lungs goes on increasing with age, and height, and growth, so that men from five feet to six feet high inspire from 174 to 262 cubic inches in a progressively ascending scale. The growth of the heart also goes on relatively to the growth of the body."

Now what is the fact? When the recruit joins and has "passed the doctor," he is handed over to the drill-serjeant; in a few months a pack is put on his back, and he goes through precisely the same work as the matured and hardened soldier; if he has a strong constitution, and does not live too intemperately, he weathers the storm, and in the end becomes a soldier; but if he has a taint of delicacy, if scrofula be lurking in his system, it is sure to be developed. Drink, night exposure, drill with a heavy load, bad ventilation, perhaps venereal, and a course of mercury, settle the question, and he dies, or is discharged a burden to himself, to his friends, and the country, before he has reached the second year of his service.

Dr. Aitken proposes, with great justice, that there should be a period of probation for the recruit, during which he should undergo a judicious and well-regulated course of training, which would not tax his powers at too early a period, and, at the same time, would determine the question as to whether he was ever likely to prove an efficient soldier.

1. *Medical Education. A Discourse delivered at the Meath Hospital.* By WILLIAM STOKES, M.D., F.R.S., Regius Professor of Physic in the University of Dublin. Dublin: Hodges and Smith. 1861. Pamphlet.
2. *General and Medical Education. The Introductory Lecture delivered at the Queen's College, Birmingham, October, 1st, 1861.* By JOHN CLAY, Senior Professor of Midwifery, &c. London: Churchill. Pamphlet.
3. *The Royal College of Physicians and Surgeons under the Medical Act. The Introductory Lecture at Surgeons' Hall, Session 1861-62.* By J. STRUTHERS, M.D., &c. Edinburgh: Maclachlan and Stewart. 1861. Pamphlet.
4. *Graduation Address to the Gentlemen who obtained the Degree of M.D. in the University of Edinburgh, 1st August, 1862.* Delivered by PROFESSOR LAYCOCK, Promoter. Edinburgh Medical Journal, September, 1862.
5. *Medical Jurisprudence.* By A. S. TAYLOR, M.D., F.R.S., Professor of Medical Jurisprudence and Chemistry in Guy's Hospital, &c. Seventh Edition. London: Churchill. 1861. Fcap. 8vo. pp. 947.
6. *A Manual of the Practice of Medicine.* By GEORGE HILARO BARLOW, M.A., M.D., Senior Physician to Guy's Hospital, &c. Second Edition. London: Churchill. 1861. Fcap. 8vo, pp. 738
7. *Physiology and its Aids to the Study and Treatment of Disease.* By ED. D. MAPOTHER, M.D., Fellow and Demonstrator of Anatomy, Royal College of Surgeons in Ireland, Surgeon to St. Vincent's Hospital. 130 Illustrations, Examination Papers, and a Glossary of Medical Terms. Dublin: Fannin and Co. 1862. Fcap. 8vo, pp. 406.
8. *Heads of Lectures on the Practice of Medicine, for the use of Students. Part I. General Diseases.* By AND. ANDERSON, M.D., Lecturer on the Practice of Medicine in Anderson's University, Glasgow. London: Churchill. 1861. Pamphlet.

9. *Syllabus of the Lectures on the Causes of Fever. Delivered during the Session of 1860-61; with an Etiological Nosology.* By THOMAS LAYCOCK, M.D., Prof. Pract. of Med. in the University of Edinburgh.

10. *An Etiological Nosology of the Diseases of the Skin.* By THOS. LAYCOCK, M.D. *Ut Supra.*

WE have here several works, bearing directly or indirectly on the education of medical students, being either dissertations on the modes of education, or aids specially prepared for assisting in the process, and we have grouped them together, as illustrating some points to which we would wish to direct attention.

Of the dissertations on the mode of conducting the education of students, that of Dr. Stokes is unquestionably the most philosophic; and as it deals more with principles than details, and takes a wide range, we will take it as our guide, in the observations we have to make. With Dr. Stokes we shall treat of the culture of students under two heads, *education* and *instruction*. By the first, we mean the training of the mind to habits of observing, thinking, and comparing, analyzing, discriminating and reasoning; and by the second, the acquirement of special information in reference to particular pursuits, as a knowledge of anatomy, surgery, and therapeutics, as a preparation for the practising of medicine. These primary branches of education, notwithstanding that they imply considerations very much separated, have, unfortunately, been very generally confounded; and to medicine it is of even more importance, than to law or divinity, that the distinction should be observed, and that sufficient care should be bestowed on the training of the mind, for it is more directly progressive than either of its sisters, and deals with conditions which are ever changing, not only as to combination and result, but as to their very nature. In the words of Dr. Stokes:—

“It is not the result of a poor seed, sown on a raw and sterile soil. It is not a handicraft, governed by a fixed rule, or any set of rules, that you may learn by rote. It is not a study of fixed, but of varying conditions. It is no solitary science, but rather a complex system of knowledge of many kinds, derived from many sources: from the observations of by-gone years, and the multiplied discoveries of the present day. It is related to, and inseparable from all other branches of human knowledge, from which it largely borrows, and to which it pays back

with interest. . . . And it is not speaking too strongly, when I declare that the student who has been induced to neglect and to despise the extra-professional study, is a betrayed man: he will find this out when it is too late; and though he may, and probably will be able to live by his profession, he will occupy but a second place in it, and be less a support than a weight and a clog upon it. Though specially instructed, he is not, therefore, an educated man; though a member of the noblest of professions, he finds himself inferior in mental culture to those who are, perhaps, beneath him in natural gifts, and he occupies, in consequence, a lower place in society. . . . Will he be less fitted to take his place in society by having gone through an University where, putting aside his scholastic advantages, he learns to know himself in some fashion; to lose his prejudices—to profit by the examples of wise and well-ordered men, who may be even his cotemporaries—to learn to submit to discipline—to enlarge his mind by communication with educated men of various pursuits and knowledge; and to be trained to remember his Creator in the days of his youth? Will he be a worse man by all this? Will he be a worse physician by being a good scholar and logician; a worse surgeon, by having a large knowledge of mechanical science; or a worse pathologist or physiologist by being an accomplished chemist?"

This assertion, that it is the degree of mental culture the physician has received that makes his position in society, is so evident, that it almost amounts to a truism, and we are sorry to see that Dr. Laycock, carried away by the spirit of the controversy that arose between the Scotch Universities and the Medical Council as to the propriety of conferring medical degrees on those only who had previously graduated in arts, should have allowed himself to have the appearance of attacking it, instead of being satisfied with showing, that the Edinburgh University has always exacted from candidates for her medical degrees proofs of having obtained a very excellent preliminary education, and that, notwithstanding her successful opposition to the Medical Council, she has by no means lowered her standard, but we must allow him to speak for himself:—

"By a large class of educationists, it is held, without much or any inquiry, that philosophical, classical, and mathematical learning so fits a youth for medical studies and practice, that the more learned he is the better for the public; while, at the same time, his personal character is also so influenced, that he is thus transmuted into both a scholar and a gentleman. But, in truth, these notions are not well founded. It is a fact that wealth, social position, and a good general education are often

combined in the same individual; but they are by no means necessarily associated. Learning, without that finish which intercourse with the world gives, never made a gentleman, any more than wealth; its tendency is rather to make a pedant. The notion is really traditional. When universities first arose in the so-called dark ages, personal freedom and education went together; no serf or slave could be taught. Hence the phrase 'liberal education' distinguished a university education. And from a similar state of things has arisen the notion that all students for the liberal professions should start from the same level of an education in arts—that, in short, there should be a kind of academic symmetry in the education of professional men. Such, indeed, has been the traditional procedure up to a recent period in all universities. Students have generally 'gone out' of arts into the other faculties, and doubtless at one period it was a necessary plan of study. For when modern European civilization began to arise out of the ruins of the ancient social organization, the languages and dialects of the Germans, Saxons, and Northmen were incapable of expressing the principles and details of the sciences and the systems of philosophy which were transmitted from the Greeks and Romans; so that at that epoch Latin was necessarily the language of learned, scientific, and professional men. All true literature, whether of religion, science, or art, was in Latin; all laws, all academic lectures, orations, and examinations—nay, the Bible and Common Prayer Book—were in Latin. Custom maintained this use of the Latin tongue, even when the necessity for it ceased, especially amongst the ecclesiastics, who are, by the very nature of their studies, the farthest removed from science. When the Bible was first translated into English by Wycliff, it was charged against him by the ecclesiastics that he had thereby desecrated it; and when Astin, a follower of Wycliff, was publicly accused of heresy, and defended himself in English, he was ordered by the Archbishop of Canterbury to defend himself in Latin. Latin was the language of legal and state documents in England until the reign of Henry III. The Church of Rome, indeed, still uses the Latin office; and in the more ecclesiastical and conservative seats of learning there survive Latin statutes, treatises, orations, and sermons. Nay, if you, gentlemen, had been candidates for a degree in this University thirty years ago, your examination would have been conducted in Latin; and to quote Molière, who saw this weak point in academic discipline more than a century ago, your examiners might have said to each of you—'*Bené bené respondisti.*'

"Latin is, however, almost wholly discarded in this University for academic uses, for the obvious reason that it is a cumbrous, inefficient, and impractical method of conducting academic business. Nor is a critical knowledge of Greek and Latin required for the purposes of medical study, or as a part of the training of the medical practitioner.

Classical studies, if too exclusively followed, are, in fact, more hurtful than helpful in this respect, because they develop more especially those mental faculties which are busied rather with abstract ideas and the meanings of words than with things and the realities of everyday life. The physician must be a close observer and a prompt doer to fulfil his part in life well; consequently the sooner, as a student, his faculties of observation and action are developed and trained the better. Hence mere book lore has always been found to be associated with speculative habits of thought and action to the exclusion of practice. It is the first of Bacon's 'distempers of learning.'

"The best education for the physician is that which evolves the philosophical and the practical equally, so that the tendency to one shall balance the tendency to the other. Hence the philosophical study of the natural sciences on which medicine rests as a science and art is a far more effective training for the medical profession than the critical study of Latin and Greek. Other portions of the extended curriculum of the faculty of arts come under the same category. Plato and Aristotle have a high historical value; and to the physician a knowledge of them, as well as of other ancient writers, is a graceful accomplishment. But for the business of modern science, and especially of modern medicine, the philosophies of modern Europe are incalculably more valuable than those of ancient Greece. Formal logic, too, is rather for the theologian and the lawyer who have to deal with authoritative propositions and established dogmas than for the physician whose business is with the order of nature. To him far more important is the philosophy of induction and the logic of common sense. I will say nothing of the higher mathematics, for I believe none is so hardy as to assert that a knowledge of the calculus is necessary to the proper study or practice of medicine.

"Now, in all this defence of our new medical curriculum as it stands in relation to arts, I do not advocate a neglect of the subjects contained in the art curriculum, or of classical or philosophical culture. The medical student is examined in arts by appointed examiners, and I venture to say that the amount of general knowledge thus required is quite equal to that formerly demanded for the degree of master of arts in Oxford or Cambridge, or even for the bachelor of arts now; and it is strongly recommended that intending graduates in medicine should be graduates in arts. Undoubtedly Latin is the very foundation of our modern European languages in all that relates to the sciences and the arts, and to be able to read a Latin author is an essential preliminary to the study of medicine. But, then, that amount of classical knowledge being attained which will facilitate the study of English and other languages of modern Europe, why require the student to be able to make Latin and Greek verses to the neglect of these, when it is plain that, as means of scientific intercourse and development, they have at least an

equal value with the dead languages. There is perhaps no higher accomplishment for any man, nor one more generally useful, than a thorough knowledge of the English language and literature; yet it is notorious that English youth trained under this high classical system leave school and college unable to write their mother-tongue correctly. Now, the whole gist and scope of the Edinburgh curriculum is to afford the means of self-culture to the student. Your studies do not end with this day's proceedings; on the contrary, you only join a numerous band of men who are hardworking students."

The two questions here mixed together, that of preliminary education and graduation in arts as a necessary condition for graduation in medicine, have no real connexion, nor can Dr. Laycock's remarks on classical studies be taken as a fair criticism on art graduations. We do not, however, mean to enter on an examination of these matters at present, but with regard to the attempt of the Medical Council to restrict graduation in medicine to those possessed of a degree in arts, or who have undergone an equivalent examination, we have no hesitation in expressing our satisfaction that it was successfully resisted. Rigid rules and coercive measures of this description have always failed, and we regard it as of the greatest importance that the several licensing bodies should be allowed, in a great measure, to determine for themselves their standards of education, or, at least, how far they shall exceed a certain minimum; for the natural laws of supply and demand, as Dr. Stokes ably argues in the following passage, will then determine far more safely than can any resolutions or edicts of councils, the education of the higher grades; and there can be no doubt, but that the infusion into the ranks of the profession of even a few very highly educated members will be the most effectual means of elevating the general standard.

"But our tendencies are various, and society is in need of servants of various kinds; some to do the higher or more intellectual, some the lower or mechanical work. Let those who aspire to the foremost rank remember that, to a great degree, the branches of knowledge, which, as means to an end, they must cultivate, are correlative; and that the powers of observation, experiment, induction, and the right use of the reasoning faculty, are the sources of all success in whatever special direction we seek to act. It is plain that the larger the mental culture—the better the soil which is to receive the seed of any special science, the richer will be the crop. The old adage, that a little knowledge is a dangerous thing, is not always true. In general, a little knowledge of anything is better

than no knowledge at all; but its danger or its safety depends altogether on the previous cultivation of the mind that receives it."

Instead, then, of laying down a fixed rule as to graduation, we would, if we might venture to dogmatize, recommend that in regulating the preliminary education of medical students, the following should be held in view as guiding principles:—viz.,

1st. The cultivation of the faculty of memory.

2nd. Of the faculty of reasoning.

3rd. Of that of observation.

For the cultivation of the faculty of memory, resort is generally had to the learning of languages, especially of the dead languages, and the reading of the classical authors. It is probable, however, that too much attention is paid to these subjects, to the exclusion, very frequently, of English literature both modern and classical. Lads are kept, while they are at school, over books written in languages it was never intended that they should master, and the effect is, that they enter on their professional studies with carelessness, from the habits they have acquired, and from the want of faith that has been generated in them, as to the reality of their studies. A certain amount of acquaintance with the classical languages is, no doubt, useful, but study of the English classics would be no less a training for the memory; it would not leave that impression of *unreal* on the mind of the student, and it would enable him to leave school with a large amount of information that would serve him materially in his intercourse with society.*

2nd. The cultivation of the faculty of reasoning. Of the necessity of this there can be no question, nor can there be, as to the mode

* "Cicero in his Offices," says Sydney Smith, "tells a whimsical anecdote of Cato the Censor. Somebody asked him what was the best mode of employing capital? He said to farm good pasture land. What next? To farm middling pasture land. Well, but after that, what the next? To farm bad pasture land. Now the notions which prevail in England respecting classical learning seem to me to resemble very much those which the old Roman entertained with regard to his favourite method of cultivation. Is a young man able to spare the time necessary to enable him to pass through the University? Make him a good classical scholar. But a second, instead of residing at the University, must go into business when he leaves school. Make him a tolerable classical scholar. A third has still less time to snatch up knowledge, and is destined for active employment while still a boy. Make him a bad classical scholar. If he does not become a Porson or a Heyne, he may learn to write nonsense verses. If he does not get on to Horace, he may read the first book of Cesar. If there is not time for such a degree of improvement, he may, at least, be flogged through that immemorial vestibule of learning *Quis docet*, who teacheth? *Magister docet*, the master teacheth. Would to heaven that he taught something better worth knowing."

in which it is best effected. "Reasoning as a practical habit, is taught," says Dr. Whewell in his *Principles of English University Education*, "with peculiar advantage by mathematics, because we are in that study concerned with long chains of reasoning, in which each link hangs from all the preceding; . . . and this faculty can hardly be acquired in any other way than by the study of mathematics." Again, he says, "In mathematics the student is rendered familiar with the most perfect examples of strict inference, compelled habitually to fix his attention on those conditions on which the cogency of the demonstration depends, and in the mistaken or imperfect attempts at demonstration made by himself or others, he is presented with examples of the most natural fallacies, which he sees exposed and corrected." Of the advantage, to a practitioner of medicine, of an intellectual training, such as is here described, it is unnecessary to speak, as the mere statement of its results must carry conviction.

3rd. The cultivation of the faculty of observation. This is the subject to which least attention is paid in general education, and yet its importance to the practitioner of medicine is not less than that of reasoning and memory, if it be not greater than that of either or both. Powers of correct and minute observation are very rare; facts that must have lain before our eyes from the earliest age of mankind are discovered from time to time, and, no doubt, will be discovered, which, had our powers of observation been cultivated, would have been known long before. Cultivation of these powers, then, we would urge as a paramount duty. The study of systematic botany and of natural history, afford the greatest facilities for the purpose. The arranging of plants in their several classes and orders requires a degree of attention to minute details, that affords, perhaps, the best training to the powers of observation that can be obtained.

But, it may be said the knowledge of botany and mathematics, and of such subjects, can be of no use to a practitioner, and his time and money should not be expended on them. True, acquaintance with these subjects can be of little or no use to him, but, it is the intellectual training that the study of them implies that is of use, and though the knowledge of them be forgotten, as it surely will when the mind is occupied with other subjects, the trained intellect remains.

Of so much importance is this training, and so much would it facilitate the acquisition of professional knowledge, that we would

suggest that the licensing bodies should shorten, by a considerable period, in favour of those who have obtained it, the time and course of education that they require from students who have not had such advantages.

Turning from "Education" or preliminary training to "Special Instruction," Dr. Stokes argues that it is not of the best kind because it is the opposite of self-instruction.

"It is to be doubted whether any man can be taught safely or thoroughly by another, when the matter to be taught or learned requires an independent exercise of mind. A good teacher should seek rather to point out the landmarks of the subject, dwelling more on its difficulties, and the mode of dealing with, and, it may be, lessening them, than on its ascertained facts. He should seek to show his pupil how to teach himself, rather than fatigue him by a detail of what is determined. By the latter course, so common in schools, the student's chance of mental exercise is taken from him. But he may still strive to exercise some power besides that of memory. He may be convinced of the value of self-culture; but what if he is not allowed time to practise it?

"Now, it is not overstating the case when I say, that in his attendances on triple, double, and single courses of lectures, in the dissecting room, on the hospital, and, lastly, on the grinder, every available hour of the day is consumed. Is any other profession studied, or compelled to be studied, in such a fashion? Can the mind of the student be able to work for any good after the physical and moral exhaustion caused by eight or ten hours of forced labour, on a crowd of scarcely connected subjects? It is plain that such a system is a vicious one; and, as a proof of its inutility, to say nothing of its mischief, there is the great fact that the student does not trust to it. Deprived of the opportunity of educating himself, he perforce joins the class of the crammer. He is not to be blamed for this. The fault is not with him; neither does it rest with those who so profess to teach; but it lies at the door of the originators of a system by which the medical curriculum has been so overloaded.

"Now, what is the position of the student? The authorized system of teaching is notoriously insufficient to "pass him," using the common language; but the unauthorized teacher is able to do so, and therefore the student rests upon him, not to be taught his business, but to pass his examination. The evil has gone very far, and will go further still. Even now some resort to this system from the very first year of their study, and sit to be crammed for two hours a day, to the destruction of all self-reliance, and the prevention of self-culture, for the purpose of obtaining the semblance of learning, which also is to be employed, not for its progression, to use the words of Lord Bacon, but merely for its use.

“The use of this knowledge is even lower than that indicated by Bacon, for it is simply to enable the student to deceive his examiners. . . .

“But it is not on the indolence of the student, or the pretensions of the crammer, that we are to charge the great evil which flows from this system. Two causes have long existed for it; and while they continue, it is hopeless to expect any change for the better.

“The first, which has just now been indicated, is the overloading of the curriculum, for no conceivable object but the benefit of those who live by teaching. The student is called on to attend every day of the session on such a multitude of lectures, given, of course, in rapid succession, as often to act in really paralyzing his brain. Double and triple courses of lectures are still demanded to be attended, and his physical and mental power gives way under such a system.

“The second is related to the first, and it is to be found in the long-existing terminal examination for the degree or licence. From the day the student begins his task, the terrors of this examination are before him; and no wonder, when he thinks that on that day of trial, when the matter at stake is his future name and fame, he will or may be called on to answer examiners who forget sometimes the difference which should exist between an examination which is competitive, and one for a licence, and seek to find out less what the candidate knows, than what he does not know—an examination in which he is, or may be, called on to answer in Anatomy—general and descriptive, Comparative Anatomy, Physiology, Medical Pathology, Pathological Anatomy, Chemistry—organic and inorganic, Botany, Vegetable Physiology, Practice of Medicine, Therapeutics, Materia Medica, Surgery, Surgical Anatomy, Surgical Pathology, Midwifery, Toxicology, and Medical Jurisprudence.

“It is not that an idea exists of the inutility of any one of these subjects; but the evil is in compelling a candidate to answer in so many in a limited space of time. It is a system the evils of which have increased, in place of diminishing. An error on the part of those who have made such laws, is naturally met by deceit in those who have to submit to them. . . .

“In what other profession are the aspirants so misused? It was not in this fashion that the fathers of British medicine were moulded, nor our great jurists, or our learned and pious theologians were trained. Will not its result be, at the best, to produce a crowd of mediocrities, and with no chance, or but a little one, of the development of the larger man? For by this machinery of special education we so stunt and shackle the student’s mind, that when at last he is set free, his nobler powers are dwarfed, and his fitness for a high social place is greatly damaged.

“These things cannot go on. Society is becoming too enlightened to bear with such a system, and we may hope that its days are numbered.

Indeed, in the recommendation of the Council to separate the professional examination into two parts, one of which is to take place at the termination of the second year of study, we may see the coming of that wholesome change, which will make the mode of examinations in medicine similar to that used in the courses of arts in the old Universities. The student would thus be relieved from the necessity of being prepared to answer at one occasion in a multitude of subjects. He could advance step by step, without hurry or forcing. The examinations would be educational. Rejection at any one of them would not damage his future position; and this circumstance would leave the examiners more free to act in their decisions; and the literature of the profession, now so much neglected, could be more easily made a part of the course of education.

“Looking to the extra-professional education and the self-culture of the student, it is plain that in his purely medical curriculum he should be relieved from much that is coercive; and the question arises what portions of it appear proper to be enforced? I have long believed, that if compulsory attendance is to be insisted on, it should be only on such courses in which the teaching is demonstrative. I believe that great good would follow from such a system, and that a higher class of man would be thus produced in our schools. Let the student be only compelled to attend such courses as those of descriptive and practical anatomy, descriptive and practical chemistry, clinical medicine, and operative surgery, all of them subjects which he cannot reach or study in his closet; but let him be emancipated from coercive attendance on systematic lectures. What appears desirable is, not that we should abolish chairs in materia medica, botany, and other branches—we should rather preserve and endow them so that first-class men would seek to fill them; but let it be a matter of option to the student to attend the courses belonging to them; and if the chairs are worthily held, their occupants will not want for pupils.

“There is another abuse or evil which hangs on those now indicated,—I mean the certificate system. We cannot invent a law which will make men honest, but it is quite possible to make such laws as will lessen the temptation to be dishonest. If the number of required attendances be diminished, so will the number of certificates of attendance sought for and granted be lessened, and a great evil be reduced, if not removed. It is admitted that in this matter great laxity has prevailed here and elsewhere, partly arising from interested motives on the part of the granter of the document,—partly from indolence and want of method in the schools,—often from a mistaken good-nature, making the teacher slow to stop the progress of the student, who, though inattentive, may be otherwise estimable, and partly from want of truth in the applicants themselves; the result of the whole being the issuing and the using of a document too often untrue, a certificate purchased, not earned.

“Now, consider the effect of this on many young men, of whom it may be said that they enter the portals of an honourable profession by being guilty of falsehood, or the subornation of falsehood. Is this a fitting commencement of a professional life, in which honour is so indispensable and so precious, that he who wants it, or he who has soiled it, has no business there. It is important in relation to this subject, to observe, that the reports of the General Medical Council show, that a large portion of the cases adjudicated upon by them, relating to persons guilty of conduct infamous in a professional point of view, had reference to the cowardly vice of falsehood, in reference to the documentary evidence of age, to the obtaining of diplomas, to the dates of diplomas, and, lastly, to the question of identity.”

The overburdening of students with lectures has attained to such a height, that of late a more or less general reaction is taking place. A writer in the *Quarterly Review*, generally believed to be Sir Benjamin Brodie, has condemned the system, and Mr. Lawrence and Mr. Ferguson have more recently expressed themselves as warmly opposed to it, and already some of the colleges have commenced to retrace their steps, and to lower their curricula. The *Quarterly Review* would, however, have them go further, and do away with their curricula altogether. “It has,” it says, “been observed, we believe by Sir Walter Scott, that no one can be said to be well educated who has not been, to a certain extent, self-educated, and all our experience would lead us to regard this maxim as especially applicable to the education of medical students. It is the duty of the governing body to prescribe for them a general plan of study, but, as to the details, we are much mistaken if they will not manage them better for themselves than they can be managed for them.”

We have here two remedies proposed—Dr. Stokes recommends that *if* compulsory attendance is to be insisted on, it should only be on such courses in which teaching is demonstrative; and Sir B. Brodie recommends that it shall not be insisted on at all. Before giving in our adhesion to either it will be well to ask—do lectures constitute the best means for educating medical students? In answering this question we have to consider what it is that students in medicine have to learn, and the mode in which information is conveyed in lectures. A little consideration will show that in the first instance the business of a medical student is to store up in his memory a series of facts, the bearing and mutual relations of which he cannot, most frequently, see or comprehend. Thus, the study

of anatomy closely resembles the study of a language, it requires simply an exercise of memory; and as, after a little study, the structure and derivation of words assist the student's memory, so in anatomy the relations and uses of the several parts assist the memory too; but, in the first instance, the faculties of observation and memory are the only ones called into exercise. The same holds true of the other subjects that have to be learned, of *materia medica*, of chemistry in some degree, and even of practical medicine and surgery. Now who would think of teaching a language to a novice by lecturing on it; reading, for instance, to a class of pupils several pages of a dictionary, and expecting them to learn by so doing. The fact is, in studies requiring the exercise of observation and memory only, teachers can give no assistance beyond pointing out the facts to be observed, and keeping the attention fixed on them. It is by repeated observations that the facts are fixed in the memory. In this the student must minister unto himself.

When the student's education is more advanced, the faculty of reasoning is called on. The facts having been acquired and stored up, it now becomes necessary to estimate their value, to compare them together, and to weigh them one against the other. To consider the generalizations that have been formed, and the inferences that have been arrived at.

Thus, then, we require two different modes of teaching, and two different classes of teachers, tutors, or demonstrators, and lecturers. "There are two modes of teaching" says Dr. Whewell, "which in a general view may be broadly distinguished from each other. In the one the lecturer expounds to his audience the doctrines or results of some branch of knowledge, the speculations of antecedent philosophers, or his own, while the office of his audience is but to attend to him, to listen, to receive, think on, and treasure up what the speaker delivers, without being called on to take any active part; without being required to produce, to test, or to apply the knowledge thus acquired. In another mode of teaching the learner has not merely to listen, but to do something himself, not merely to receive, but to produce his knowledge. . . . The former I call speculative, the latter practical teaching."

Of these two modes of teaching the colleges have provided amply for the "speculative," but for the "practical" they have made no provision, yet it has grown up independently of the colleges, and indeed, even contrary to their wishes, and in opposition to their rules, notwithstanding which, it is now the most extensively used

system, and is rapidly superseding lecturing. Its growth and success, under the adverse circumstances it has had to encounter, show that it is the result of some deep seated want which the other failed to satisfy.

In Dublin, where this system is more extensively practised than elsewhere, it is known as "grinding;" an unfortunate term, for it is thereby confounded with the "grinding" more prevalent in some other schools than in Dublin, which is a "cramming" process that proceeds on the plan of ascertaining the questions an examiner is in the habit of asking, and providing the student with answers for them. The true "practical" system, or the "tutorial," as it is beginning to be called, is quite the reverse of the "cramming" process. In it a certain subject is prescribed to the students, which they are expected to study, the teacher then meets them and examines and cross examines them in reference to it, correcting their misconceptions, or leading the class to correct one another, testing thus the amount of study given to the subject, the clearness with which it has been apprehended, and the powers of retention of the student. Thus the idle are detected, the careless are warned, and the superficial and stupid are alike shown their deficiency. The student, moreover, is taught to express his thoughts in words, to arrange his ideas, and to have his knowledge ready for use when called on, and so is relieved of much of the "mauvaise honte" and diffidence that afflict so many when undergoing an examination.

For elementary instruction, we believe this tutorial system is the best that can be adopted. For the teaching of the more advanced classes the "speculative" mode will always hold its place. In it the facts that have been acquired are compared and weighed, "the doctrines or results of some branch of knowledge, the speculations of antecedent philosophers, or the teacher's own are expounded," and the student is taught to reason. "This higher kind of teaching," says Dr. Harvey, in his *Letters on Medical Administrative Reform*, "may not inaptly be compared to the charge which a judge delivers to a jury, after they have heard the evidence in the case which they are engaged in trying:—The jury already know the details of the case; they have heard the evidence bearing upon it, and they have formed certain conclusions in regard to it. The judge addresses them accordingly: his object is to assist them in arriving at a sound conclusion, and finding a true verdict; and, with a view to this, he merely recapitulates the leading particulars

of the case, dwelling only on those which it is specially important for them to bear in mind; and he then proceeds to sift and weigh the evidence adduced, and likewise to apply the facts as they truly appear, together with the principles or the express enactments of the law, to the questions which the jury have to decide; but he discards a minute detail of the whole case, as being what the jury are already familiar with."

These two modes of teaching have then their respective merits, and should not be placed in opposition to one another. The regulations of the colleges, however, have this effect, they ignore the existence of the tutorial teaching, except, indeed, Edinburgh University, where, under the guidance of Professor Goodsir, the tutorial system has been regularly recognized; and where, we are glad to see, from the address of Professor Laycock, it is likely to be still further developed. They require attendance on lectures only, and in so doing, interfere with and prevent the right and natural development of both systems.

Both systems suffer, but, the "speculative" mode more especially. It suffers most, because it is most interfered with, in fact, it fails in consequence of the very means that were intended to support it. To use a professional illustration, the failure of the system is like the curvature of the spine that results from the use of stays and artificial supports adopted in the anxiety to preserve a good figure.

The cause of this failure of the lecturing system will be apparent on a little examination. Students are required to attend certain courses of lectures, and to attend the same courses two or three times in succession; the result of which is, that the classes attending these lectures are composed of first, second, and third years' students. And the teacher must either make his lectures of the most elementary character to suit the junior students, or, if he addresses himself to the seniors, involve the others in discussions they cannot follow or comprehend. Most lecturers address themselves, and we believe, rightly, to the juniors of the class; the seniors, consequently, feel that the lecture is to them but a twice or thrice told tale, and they soon begin to absent themselves. Add to this, that books abound, conveying the same elementary information as the lecture, and illustrated with drawings and diagrams whose excellence and clearness cannot be surpassed; and that these books are permanent, that in studying them, if the attention wander for a moment, the train of thought is not lost as in lectures;

and the reason why students are careless as to attendance on lectures will be apparent.

But this is not all, the forcing of attendance on lectures induces men to lecture who have not studied or reflected, and thus the efficacy of lectures is still further impaired.

But granting that lectures are the best mode of conducting some parts of the professional studies of medical students, the question still arises as to whether attendance on them should be enforced—we mean by roll calls and certificates. Enforced attendance on lectures is but a clumsy contrivance; the body of the student you may have, but his attention you cannot secure; better far leave the attendance optional, but make it absolutely necessary for candidates for the licence to have thoroughly studied their subject. In this way the lecturers will be stimulated to make their lectures worthy of being attended, and while the benches of incompetent teachers will be deserted, students will know and feel that it is for their own advantage to seek information where it is best obtained.

Let licensing bodies then, test the knowledge of the candidates for their licences by frequent and repeated, and thorough and stringent examinations, and thus indicate the general plan of study they should pursue, but, as for details, leave them to manage them for themselves, when, to recur to the words of Sir Benjamin Brodie, already quoted—"We are much mistaken if they will not manage them better for themselves than they can be managed for them." Already we have, in the pages of this journal,^a advocated this system of free teaching and frequent, or, as Dr. Stokes calls them, "educational" examinations, and we now beg to recur to our words.

"Under such a free system, no doubt much of the lecturing of the present day would have to be given up; at the same time, for many of the higher branches of knowledge, and for subjects requiring demonstrations, the efficient lecturer must be always sure of an audience. There is an influence in the living voice, and an advantage in coming face to face with the living teacher, that places the lecturer far above the competition of books; but teaching of this kind must be of a high description,—the audience must be led to examine, to reflect; the lecturer must show that he is able to lead them in this path; he must, moreover, have something to communicate, and such lecturing will command an audience. It was such lecturing that drew the crowded audiences which attended the course delivered a few months ago, in this city, by Dr. Brown-

^a Vol. xxviii., p. 400.

Séquard, where the most senior and busy practitioners were seen vying with the student in the attention they bestowed.

“ Yet even in such a course as that delivered by Brown-Séquard, a radical defect in lecturing, as a system of education, manifested itself. Notwithstanding that the audience were, for the most part, men of trained minds, who were familiar with the bearings of the subjects discussed, and that the chief theories propounded were based on experiments that were exhibited,—yet there was manifested by the conversation of the audience, after the lecture, a degree of uncertainty as to the facts actually demonstrated, and of obscurity as to the theories propounded, that showed the difficulty, in listening to a lecturer, of hearing all that is said, and of duly estimating and retaining all that is heard, and the necessity, that even trained minds are under, of turning back and retracing their steps, in proportion as the subject develops itself, opportunity for which can only be afforded by a book.

“ Let us not be misapprehended. We do not mean to decry lectures as useless, but we do assert that, for many purposes, lecturing is a bad system of teaching. For the acquisition of elementary facts, where the student has chiefly to exercise his memory, and to keep his attention fixed, we believe lectures to be about the worst system that could be devised; but when the facts have been acquired, and when it is wished to teach the student to weigh them, to reason on them, and to estimate their value, we believe there is no system so efficient as good lecturing, especially where the lecturer makes use of a text-book, and follows it in his remarks.”

Having thus explained the principles on which we believe the culture of medical students should be conducted, it remains for us to make a few observations on the books before us, and their relation to the preceding remarks. In this point of view they may be divided into two classes; first, we have Taylor's *Medical Jurisprudence*, and Barlow's *Practice of Medicine*, which are complete, though condensed treatises on the subjects of which they treat. They are now so well known that they require but little notice from us. The appearance of renewed editions is the best evidence of their usefulness. To teachers they would serve as valuable class books—to students and practitioners as excellent books of reference.

The remaining books are of less ambitious character; three of them are pamphlets, and constitute well arranged syllabuses of courses of systematic lectures; a professor, taking one of these as his guide, and giving a copy to each of his pupils, would, we are

sure, be enabled to lead a class of advanced students, who had already acquired the elementary facts, to weigh them, and reason on them, and to estimate their value—he might conduct them through “fresh fields and pastures new” of science and art; and the diligent and reflective student would be enabled, by the use of them, to afterwards recall most of what had been said, certainly more effectually than if he had attempted to take notes of the lecture himself, but we fear not so profitably as if they treated more fully of the subjects. Mapother’s *Manual of Physiology and Disease* belongs to the same class; or, more correctly speaking, is intermediate between the syllabus and the complete treatise. The materials of which it is composed were arranged, the author tells us, as notes for the instruction of his pupils, and at their suggestion, are published in their present form—the only object attempted having been, he says, to express the leading facts of the science in as few words as possible, leaving them to be amplified or freed from any obscurity by the reflection of the reader or the expository powers of the lecturer. A work constructed on such principles supplies, in a great measure, the text-book we have been arguing for in the preceding pages; its well-executed diagrams and illustrations, and the facilities it affords, by its permanence, for reference and reperusal make it of great value. Its details are so full as to make it easy of comprehension, even to the junior student, while the senior will have his memory refreshed, and his judgment and reason exercised by the use of it. That it will serve a useful purpose among students, and meet with a ready sale, we cannot doubt.

On the Immediate Treatment of Stricture of the Urethra, by the employment of the Stricture Dilator. By BERNARD HOLT.
London: John Churchill. 1861. 8vo., pp. 56.

“BURST it open and thrust in a number twelve,” was the bantering answer made us some time back, by a medical friend, distinguished in his specialty, to our question as to whether he had heard of the new plan proposed for the treatment of stricture. At first we were under the impression that he had gotten some vague idea of Mr. Holt’s plan, but his comical look of blank surprise, on our proceeding to show and explain to him the instrument, soon con-

vinced us that his indeed was but one of those random shots, which, by universal suffrage are admitted to be capable of putting a period to the existence of a certain gentleman in black, with a name unpronounceable in good society. Nor, indeed, was his hap-hazard answer to be wondered at, when we reflect on the various plans that have been from time to time propounded for the treatment of this wide spread, most distressing, and occasionally most intractable disease. No other plan that could be called new could suggest itself to his mind, and yet great was his surprise when he found how near the truth was what he intended to be but a piece of pleasant extravaganza. Instead, however, of entering on a *critical examination* of the plan of treatment in question, it may be as well to inform such of our readers as are still in the dark what Mr. Holt's plan is, and to endeavour to describe the instrument by which he proposes to carry out his views.

The instrument employed by Mr. Holt first claims our attention. He describes it as follows:—

“The instrument by which this simple process is accomplished, consists, as is shown in the drawing, of two grooved blades fixed in a divided handle and containing between them a wire welded to their points, and on this wire a tube (which, when introduced between the blades corresponds to the natural calibre of the urethra) is quickly passed, and thus ruptures or splits the obstruction.”

Mr. Holt's views are these: that we should rather prefer forcibly to overcome, with the assistance of the instrument which he recommends, the resistance offered to us by a stricture, than endeavour to enlarge its calibre by the slower process of dilatation by the employment of successively enlarging instruments; or, in extreme cases, cutting the Gordian knot by the summary process of external incision.

The advantages that he claims for this plan of treatment are, rapidity of cure, immunity from danger, freedom from hemorrhage, and infiltration of urine, &c.—all consummations most devoutly to be wished for. In a periodical such as this, it would ill become us to assume to ourselves the right of pronouncing an absolute verdict in such a case; but, were we to judge from our own experience, as also from a perusal of Mr. Holt's work,^a we would feel inclined to accept the following propositions put forward by him as proven:—

^a We beg to refer our readers to Mr. Macnamara's paper on this subject, at p. 297.

"1. That the operation is of the most simple kind, and that any one who can pass a bougie through a difficult stricture is competent to perform it.

"2. That it is not attended with hemorrhage, infiltration of urine, abscess, or any serious local mischief.

"3. That in the majority of instances the relief is immediate.

"4. That the occurrence of rigors, or any other constitutional disturbance, is very rare, and the patient is seldom confined to bed longer than from twelve to twenty-four hours.

"5. That the urethra is immediately made permeable by a catheter of full size, which may be ever afterwards passed at discretion.

"6. That this method is available in every kind of stricture where a canula of any size can reach the bladder.

"7. That when after-treatment is judicious and attentive, the full capacity of the passage is always maintained.

"8. That in all cases of neglected after-treatment, the stricture yields again to this method more promptly than to any other.

"9. That, it being impossible that any but the diseased tissue can be divided, the splitting of the stricture has a decided superiority over any cutting operation.

"10. And, to sum up the great advantages in one proposition, that the process is facile, speedy, prompt in its effects, and free from every danger, immediate or remote."

We must terminate these remarks on Mr. Holt's brochure, by most strongly recommending its perusal to every surgeon anxious for the advancement of his profession; and we can assure our readers that in Mr. Holt's work they will find a series of cases recorded in so truthful, and, at the same time, so unpretending a style, that they cannot fail to carry even to the most prejudiced mind conviction "that there is something in it." We confess ourselves to have been at first of the sceptical tribe, and nothing less than Mr. Holt's position and character as an accomplished surgeon, with a large field for observation in the hospital amongst the surgical staff of which he is so distinguished an ornament, would have induced us to submit his plan of treatment to the hard test of experiment; we have done so, and with an amount of success that warrants us in most strongly recommending it to the still further consideration and adoption of our surgical brethren.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. (Second Series.) Vol. XXVI. London: Longman. 1861. 8vo, pp. 286.

THIS volume of the *Transactions* contains 20 papers, of which we give the following abstracts:—

I.—*A Case of Gastrotomy for Extra Uterine Gestation.* By JOHN ADAMS, F.R.C.S., Surgeon to the London Hospital.

THE patient in this case was a woman, aged 28, who had been married eight years, and had always menstruated at regular periods, but had never been pregnant before. Her pregnancy commenced early in February, 1860; from March till May she was subject to occasional attacks of severe cramp-like pains, which were confined to the right side of the abdomen, extending from the pelvis to the hypochondrium. She felt very sick, but rarely vomited; she had no distinct morning sickness at any time. In June she first felt the movements of the child, which continued till the 30th of Oct., a day or two prior to which she had a heavy fall, followed by soreness and cramps down to her knees. On 30th Oct., she received a severe mental shock from the death of her sister, and after this the movements ceased. She now began to feel sleepy, tired, and worn, and suffered from a sense of stiffness in her limbs, but had no distinct pains like uterine pains. A discharge now took place from the vagina, and blood, varying in colour from dark to pink, and pieces of flesh-like substances, entirely inoffensive in odour, were expelled in gushes. She reckoned her time of gestation to have terminated at the beginning of November, 1859, and from this time she gradually diminished in size. In Feb., 1860, menstruation recommenced, and in March the milk left her breasts, and she had become much thinner than she had been. It was now Mr. Adams first saw her, and in conjunction with Dr. Ramsbotham.

“On examination a hard oval tumour was felt, principally on the right side of the abdomen, extending from above the umbilicus to the right side of the symphysis pubis. There was a remarkable prominence in the tumour, which was quite immovable, and very unlike any swelling from a fibrous tumour connected with the uterus. The hand could be readily passed around a great part of it, and the abdominal parietes could be made to glide indistinctly over its anterior surface. There was a feeling

of irregularity about it; but I confess I could not distinctly recognize the individual portions of a fetus, for there was a good deal of subcutaneous fat in the walls of the abdomen. From my limited experience, I can hardly venture to assert that the sensation communicated to me by the examination was characteristic of this condition, but I recognized it at once as precisely similar to what I had once witnessed in a parallel case. There was no pain on pressure. The uterus was found by examination *per vaginam* to be rather higher than usual, but there was no evidence of disease in it. She was able to perform her usual domestic duties, and expressed herself very anxious for the removal of the tumour.

“There could be little or no doubt as to the precise nature of this case, and Dr. Ramsbotham and I agreed that the operation of gastrotomy should be performed; but we thought it prudent, on grounds hereafter to be stated, that this should be deferred until six months had elapsed from the end of what was supposed to be her natural gestation. She was readmitted in May, and, being then in perfect health, and fully alive to the risk of the operation, I performed the operation on the 31st. She was readily placed under the influence of chloroform. I made an incision about five inches in length in a vertical direction over the most prominent part of the tumour, beginning a little above and on the right side of the umbilicus, and extending as far as within an inch and a-half of the pubis. The integuments were divided, and I found that my incision had fallen on the sheath of the rectus. This was opened, and the muscle exposed; the peritoneum was opened to the same extent, and the surface of the tumour came into view, presenting a glistening aspect, and only slightly adherent at this part. The cyst, which was about four lines in thickness, and very firm, was opened, and a pint of a greenish-yellow, transparent fluid escaped, with yellowish flakes of *vernix caseosa* and some hairs. As soon as the cyst was opened, a loop of the funis protruded. The cyst was divided on the finger to the extent of the opening in the abdomen, and the funis being returned, and a portion of the rectus divided transversely, I felt the head and body of a fetus, with its head uppermost, and its face towards the spine. I introduced my hand and seized an arm, which I pushed back, and then had no difficulty, owing to its limp state, in extracting the fetus by the breech. The funis was divided so as to leave about two inches outside the incision. On traction by the remaining portion of the funis, it was clearly ascertained that the placenta was firmly adherent, and, under the advice of Dr. Ramsbotham, no attempts were made to remove it. A piece of omentum, which had escaped through the opening, was cut away, and some rather large arteries as well as some vessels in the cut edges of the cyst, were secured. I carefully sponged out all the fluid from the cyst, the walls of which collapsed, especially on the left side. Firm adhesions seemed to keep the right side in contact with the abdominal walls. The edges of

the wound were carefully brought together by interrupted sutures, carried only through the integument and subjacent fat, and all the parts were kept in apposition by careful strapping, padding with cotton wool, and an elastic bandage.

"Half a drachm of laudanum was given after the operation. She became exceedingly faint, but was restored at once by brandy. It would be useless to detail her progress with any degree of minuteness from day to day. She took moderate support, and a small quantity of brandy and good sherry, and she went on uninterruptedly well. The funis, which, on its first appearance during the operation, was thick and oedematous, shrivelled up, and was altogether lost sight of on the fifth day after the operation; no doubt it escaped amongst the discharges. There remained for some time a small fistulous opening, with exuberant granulations, and a slight discharge of fetid matter at the lower part of the wound, where the funis had escaped.

"October 1st.—Since this account was written, I have seen Mrs. Jermy three times. On her first visit she looked pale and ill, her legs were slightly swollen, and her general health was evidently suffering from some obscure cause. The fistulous opening still existed, and discharged a small quantity of fetid pus. I passed a steel director at least four inches towards the back of the pelvis, and this gave her pain. Caustic was applied to the orifice. Ten days or a fortnight after this she came to see me, and her health had materially improved; and about ten days ago she appeared quite well, and told me that the discharge had almost entirely ceased."

Mr. Adams says there are several points of serious importance in connexion with this case, on which the practice pursued has a forcible bearing; these are, first, the propriety of performing any operation whatever under such circumstances; secondly, the time at which the operation should be performed, if thought desirable; and lastly, the method of performing it. Are we justified, he asks, in removing by an operation an extra uterine fetus, when nature affords us no indication of a desire to get rid of it by ulceration, pointing, &c.? Is the risk incurred by the operation commensurate with that which the woman runs if the case is allowed to remain intact? After referring to the cases on record, where the fetus has remained innocuous in the abdomen of the mother during periods varying from ten to fifty-six years, in some of which the mothers have again conceived and borne one or more children, and to cases in which the fetus has been got rid of by ulceration into the vagina, rectum, colon, bladder, or through the abdominal walls, he proceeds to say:—

“ We have then, as militating against the operation of primary gastrotomy, the fact that the fetus may remain innocuous for an indefinite period, and next that nature may expel the fetus by abscess or ulceration, at which time the surgeon’s assistance may be frequently advantageously employed; in respect to the first, however, there is the prospect that, sooner or later, inflammation and its consequences may arise; and, in reference to the second, many mothers die during the efforts of nature to get rid of the incumbrance. Nevertheless, arguments deduced from a consideration of these circumstances might deter a timid surgeon from any interference, except under circumstances now so frequently mentioned; and it is quite clear that, if the spot where the incision should be made were always indicated, it would obviously be our duty to wait until this took place; but it must be admitted that frequently ulceration occurs in parts where it cannot at first be recognized, and where no surgical means can be employed to aid nature in her efforts.

“ Let us look at the circumstances of the case, as afforded by this and other analogous instances. The fetus is dead, and must sooner or later be felt as a foreign body, according to a natural law; if the operation by incision at an early period be not adopted, it must either be removed by the slow process of ulceration, or must be so closed in as to be incapable of becoming a cause of further annoyance, except from its size and position. Of course, I am not anxious to evade the fact that gastrotomy may be successfully performed after ulceration has commenced. But the pointing may occur, as is often the case, in situations where no operation can be performed. I think that, even when no pointing has happened, as a foreign body it ought to be removed. So long, however, as it gives no inconvenience, the decision may rest entirely with the patient; but I certainly would not withhold my sanction to the operation, if she herself, on account of pain, or other cause, were willing to rid herself of her burden.”

In reference to the period at which the operation should be performed, Mr. Adams thinks it should never be attempted with a view to saving the life of the child, as all such attempts have been invariably fatal to the mother; and believes that the older the fetus, or the nearer it has approached to maturity, and the longer the operation is deferred (within some, though indefinite limits), the greater the chance of a successful operation, because of the greater probability of adhesion having taken place between the cyst and the walls of the abdomen, and so obviating one cause of danger—the risk of peritonitis. In the case detailed the patient was advised to wait six months from the completion of her full period, at which time Mr. Adams expected a complete adhesion of the cyst to the peritoneum, but was, to some extent, disappointed.

The only point in reference to the operation requiring remark, is in relation to the placenta. It appears that whenever any rude attempts have been made to extract it, the cases have invariably been fatal. Nevertheless, it ought, Mr. Adams says, to be examined by very gentle traction of the cord, to see if it be loose and can be removed with facility, otherwise it is better to leave it alone, with the hope that it will be separated and come away in the discharge, for while it remains the wound will not close; and there is no doubt but that the patient incurs the risk of pyemia so long as the wound remains open.

In a postscript, dated May 30th, 1861, it is stated that the wound had closed up at least four months before, but that the woman has suffered from a large ventral hernia, which is easily reduced, and is readily retained by a suitable truss.

II.—*On an Operation for Pervious Urachus, with Stillicidium Urinæ.*
By THOMAS PAGET, F.R.C.S., Leicester.

Mr. Paget refers to a case previously published, in which, by the finger passed into the bladder through the navel and along the urachus, which had remained open from birth, he had extracted a ring-shaped calculus, formed on a pubic hair for its nucleus, and says he has since accomplished perfect closure in this and another case of the same congenital defect. The operation was first performed on a female child, four months old. On drawing aside the folds of the umbilicus by the fingers, an aperture was seen which would admit a common-sized cedar pencil. The skin was inverted, and proceeded along the opening to the level of the posterior surface of the abdominal parietes, where it met the mucous membrane of the bladder extended along the urachus. Every occasion of thus drawing the skin was accompanied by a gush of urine. The child was well developed, thriving, and lively.

The operation was simply to seize with toothed forceps the integuments at the juncture of the skin and mucous membrane, and hold them while free decortication of the whole circumference of the aperture was made with a small scalpel. Adaptation was effected by a suture-pin and a strip of lint wound on it, as for hare-lip, first in an 8 form, then elliptically, until sufficient breadth of pressure was given.

On the third day the pin was removed, the lint still adhering, but within 24 hours this was washed away by a discharge of urine, when an aperture, scarcely large enough to admit the bulb of a

probe, was discovered, and in a granulating state. This opening soon closed, and the child became strong and healthy.

The second case was that of the man from whom the calculus had been removed, and who was now 55 years old. The opening admitted three fingers in its horizontal axis and two in its vertical. A similar operation was performed, the decortication being carried to the extent of the third of an inch in thickness and two-thirds in breadth, and when the needles were removed on the fifth day, the opening was effectually closed.

Mr. Paget refers to these cases, and to one published in the *Med. Zeitung* of Berlin, as disproving Cruveilhier's statement, that where the urachus is pervious the urethra is always obliterated, and as proving that this congenital malformation may be readily and permanently relieved.

III.—*Contributions to the Subject of Compound Fracture, being an Analysis of 302 Cases.* By THOMAS BRYANT, F.R.C.S., Assist. Surgeon to Guy's Hospital.

These cases include all that were admitted into Guy's Hospital during the last seven years, and of which Mr. B. takes the details from his own notes. The particulars of the earlier cases, which extended over the last 20 years, are taken from the records of the Hospital. Fractures of the smaller bones, as of the hands and feet, are omitted. The paper being an *analysis*, and already quoted in our pages (vol. xxxiii. p. 435), we must refer those interested to the original, which is full of most valuable materials.

IV.—*Analysis of Fifty-two Cases of Epilepsy observed by the Author.* (Second Series). By ED. H. SIEVEKING, M.D., Physician to St. Mary's Hospital.

This is a valuable paper, as bearing on the clinical history of the disease; but we must again refer to the original.

V.—*On Pulsatory Bronchocele.* By JOSEPH BULLAR, M.D., Physician to the Royal South Hants Infirmary, Southampton.

Dr. Bullar gives here two cases of the disease, recently named by Trousseau as "Graves' Disease." In both cases there was enlargement of both lobes of the thyroid gland, with enlargement and protrusion of the eyeballs, and excited action of the heart. There were enlargement and excited action of the carotid and thyroid arteries, and the pulsation was communicated to the thyroid

gland, and gave rise to a peculiar thrill or purring sensation. In both cases the disease yielded to the use of iodine, and treatment directed to the general health. In one case Sir B. Brodie was consulted, and recommended a trial of the old remedy, burnt sponge, which he said he had known to do a great deal of good, after iodine had failed.

Perhaps the most remarkable features about this paper are, that Dr. Graves' name is not once mentioned in connexion with it, and that Sir B. Brodie, writing in 1859, says he had not previously seen more than one case of the disease, "but he believed, when he had inquired about it formerly, he found that it had been described by some authors." Dr. Bullar has added nothing to the history of the disease as given by Dr. Graves in his *Clinical Medicine*, and by Dr. Stokes in his work on *Disease of the Heart*.

VI.—*Remarks on the Cause of Closure of the Valves of the Heart.*

By W. O. MARKHAM, M.D., Physician to St. Mary's Hospital.

Dr. Markham describes the valves of the heart as containing a layer of elastic tissue; that in the auricular ventricular valves lying under the serous membrane covering their auricular surface, and that of the semilunar lying under the serous membrane covering the ventricular surface. He believes that it is the contraction of this layer that closes the valves, and "*that no other explanation of the fact is possible*;" but, notwithstanding this positive pronouncement, he adds in an appendix that since the paper was read he has satisfied himself that there is one other element of force, which either does, or may play a part—the elasticity of the distended ventricle itself. The force of the auricular contraction, he says, drives forward the blood, and not only dilates, but also forcibly stretches the ventricles; consequently, when this distending force ceases, the elasticity of the distended ventricles comes into play, reacts on their contents, and, therefore, necessarily presses the blood against the ventricular surface of the auriculo-ventricular valves, bringing the valves into perfect contact, and completing their closure. Dr. Markham here makes a rapid approach to the theory of the valves being closed by the pressure of the blood, which, in the first part of the paper he entirely repudiates. We understand him to teach that the first stage of the closure is effected by the reaction of the elastic layer of the valves, and the second or completion is effected by the pressure of the contents of the ventricles, caused by the elasticity of the

walls, before the systole commences. Dr. Markham believes this theory to be of some practical importance:—

“I will, in conclusion, suggest that this view of the mode of closure of the valves may explain some facts in diagnosis which have hitherto puzzled the physician, as, for instance, the existence of a cardiac murmur heard during life in cases in which the valves have been found after death, to all appearance, competent. In such a case I would suggest that the elastic element of the valves has undergone some pathological change, whereby its elasticity has been impaired or destroyed, and, therefore, that the valves were no longer able to rise up freely towards each other during ventricular diastole. In consequence of such imperfect action a certain amount of regurgitation must necessarily occur at the commencement of the ventricular systole, and, consequently, a murmur be excited. The fact also shows that, to prove the capacity of the auriculo-ventricular valves for effective closure during life, we must ascertain the condition of their elastic powers after death, in the manner above described, viz., by removing the auricles of the heart and filling the ventricles with fluid. The greater or less degree of readiness with which these valves rise in the fluid will indicate the condition of their elastic tissue.”

VII.—*Pathological Researches into Diseases of the Ear* (Seventh Series.) *Sebaceous Tumours in the External Auditory Meatus, their Effects upon the Organ of Hearing, the Petrous Bone, and the Brain, with Suggestions as to their Treatment.* By JOSEPH TOYNBEE, F.R.S., Aural Surgeon to St. Mary's Hospital, &c.

We extract some of the opening paragraphs of this paper:—

“Inasmuch as sebaceous tumours generally produce deafness, and almost invariably cause disease of the petrous bone (disorganization or abscess of the brain being a result in some cases), as their presence in the meatus is far from being infrequent, and as they do not appear to have been recognized by the medical profession, I am induced to lay before this Society the results of my observations upon them.

“Sebaceous tumours are described by writers on the subject of skin diseases as occurring in different parts of the body,^a but I am not aware that their presence in the external auditory meatus had been even alluded to, previously to the publication of my dissections.

“Nevertheless there can be but little doubt that cases of this disease occurring in the ear, and producing very singular results, must be constantly presenting themselves to the notice of members of the medical profession; it is not improbable that they are included under the category

^a Mr. Erasmus Wilson has also given them the name of *sebiparous* tumours.

of cases of otorrhea, and when the petrous bone and the brain become diseased they are probably looked upon as cases of caries resulting from otorrhea.

" The results of my observations upon the *structure* of these sebaceous tumours tend to show that they are almost wholly composed of flattened cells of a large size, and very similar to those constituting the epidermis. These cells are arranged in layers ; they are enclosed in a distinct membranous envelope, formed of areolar tissue. When developed in the ear, these tumours do not appear to result from a morbid change of the hair-bulb or its follicle ; indeed, they frequently occur in the innermost part of the meatus, close to the membrana tympani, where no hairs are to be found. Their shape is usually spherical, and they are met with in every part of the external meatus. They possess the singular property of increasing towards their attached surface equally with that towards the cavity of the meatus, and the result is absorption of the petrous bone. I am not aware that I have dissected a single sebaceous tumour in the external meatus, however small, that had not caused some absorption of the osseous wall. These tumours vary in size from a millet-seed to a large hazel-nut. When of the latter size, they cause an enormous dilatation of the meatus, so that not unfrequently a finger may be passed inwards as far as the membrana tympani. They also produce absorption of the bone to so great an extent that a communication is found with the mastoid cells, tympanum, cerebral or cerebellar cavities. Their progress would seem to be more impeded by the presence of a membrane than by bone, as the membrana tympani frequently remains entire when the surrounding bone has been absorbed. In one case, which will be cited, the tumour went through the external and then the internal osseous walls of the mastoid cells, and came into contact with the dura mater ; instead of penetrating it, the tumour passed upwards, causing absorption of the posterior, and then the upper wall of the petrous bone, and eventually entered the tympanic cavity, without producing any perforation in the dura mater. It is a remarkable feature of this disease that the tumour may pass through the substance of the petrous bone, causing a large aperture in it, without producing any visible effect upon the surrounding osseous tissue, the margins of the aperture being often as sharp and well defined as if made by a chisel.

" Sebaceous tumours grow in the external meatus, and even reach to a considerable size, causing absorption of the bone, without the occurrence of pain ; indeed, as a rule, the attention of the surgeon is called to them either on account of the deafness which follows the occlusion of the meatus, from the presence of a fetid discharge, or from symptoms of irritation of the brain, which too often terminate in death.

" The circumstance that the presence of a sebaceous tumour in the ear seems capable, by the irritation it causes, of producing an abscess in the

brain, may be adduced as additional evidence (if further evidence be required) in favour of the opinion that, when abscess in the brain coexists with disease of the petrous bone, the abscess is caused by the affection of the ear, and the disease of the petrous bone is not caused by the abscess in the brain.

“The effect of sebaceous tumours upon the membrana tympani and the contents of the tympanum is worthy of observation, the result being, not uncommonly, very serious deafness. In some instances the tumour presses upon the exterior of the membrana tympani, gradually forcing it inwards until its inner surface is in contact with the outer surface of the promontory; in other cases the tumour passes through the membrana tympani, producing an orifice with defined margins.

“The only disease for which sebaceous tumours are likely to be mistaken is the presence of one or more osseous growths in the meatus, covered by the dermis; gentle pressure with the rounded extremity of a probe is, however, sufficient at once to discriminate between the two kinds of growth.”

The treatment recommended by Mr. Tonybee is the extirpation of the tumour as completely as practicable, by making a crucial incision, squeezing out the contents, and seizing the cyst with a forceps and removing it. It must be remembered that in the later stages there may be adhesion to the dura mater, and where it is impossible to remove the cyst, it is of importance that the case be well watched, and the contents of the tumour removed as fast as they are secreted, as even a large opening towards the meatus, with a free discharge, does not prevent the tumour advancing towards the brain.

VIII.—*Further Observations on the Structure and Treatment of Uterine Polypi.* By ROBERT LEE, M.D., F.R.S., Obstetric Physician to St. George's Hospital.

We shall devote a special article to this important paper in our next.

IX.—*Observations on the Growth of the Long Bones, and of Stumps.* By G. M. HUMPHRY, M.D., F.R.S., Surgeon to Addenbrook's Hospital, Cambridge, &c.

Dr. Humphry undertook the investigations, the results of which are here recorded, in consequence of the conflicting opinions which have lately appeared, with reference to the growth of the limb after excision of the knee. The paper has already been referred

to in the *Retrospect of Surgery* (Vol. xxxiii. p. 181), and we now content ourselves with quoting the paragraphs in which Dr. Humphry gives the conclusions he arrives at.

“Agreeing with most preceding observers, that the elongation of a long bone is chiefly caused by growth at the epiphysial lines, I have endeavoured in this paper to show that the elongation proceeds most quickly, as well as is continued longest, at the end where the epiphysis is last united, which is usually the larger end; this is attended with a shifting of the periosteum towards that end, and so regulates the direction of the canals for the nutritious arteries.

“Secondly, that the growth of a stump is not usually proportionate to the rest of the body, and is least so when the more quickly growing end of the bone has been removed.”

X.—*Researches on Asphyxia, with Observations on the Effects produced by the Hot Bath in Asphyxiated Animals, and its Use in the Treatment of Suspended Animation.* By A. T. H. WATERS, M.R.C.P., Lect. on Anat. and Physiol., Liverpool, &c.

Dr. Waters undertook these investigations, to ascertain the best mode of treatment in cases of acute asphyxia, especially as to the use of the warm bath, which is recommended by some of the societies who issue directions for restoring suspended animation, and expressly forbidden by others, as not only useless but dangerous. He performed two series of experiments on dogs, cats, and rabbits; 1st, to ascertain how long the heart continues to beat in asphyxia, for which purpose he kept them under water till all external sign of life had completely ceased, and then opened the thorax, and exposed the heart, when he found, that on a general average of 22 animals, the ventricular portion of the heart continued to beat for 19 minutes, which is just double the period ($9\frac{1}{2}$ minutes) it was found to act by Mr. Erichsen, who experimented on dogs, producing asphyxia in the open air.

The influence of the hot bath Dr. Waters tested, under two conditions, 1st, when respiration had entirely ceased, and there was no attempt towards its restoration, but with the heart still acting; and 2nd, in animals in which it had been re-excited, but was being only imperfectly carried on.

In the first case, in no instance did the bath produce a respiratory effort, or any movement whatever, on the part of the animal, and the action of the heart seemed less vigorous, and to last for a

shorter time, in those animals which were put into a hot bath, than in the others.

Thirteen experiments were tried on animals in whom respiration had been re-excited, and was being carried on, though imperfectly. Seven were treated by the hot bath, in which they were kept for periods varying from $3\frac{1}{2}$ to 15 minutes; of these six died and one recovered. Six animals after being asphyxiated were simply left to themselves, exposed to the atmosphere, of these four recovered and two died.

In cases where respiration has entirely ceased, Dr. Waters believes that the hot bath by momentarily stimulating the heart's action, causes increased congestion of the lungs, with a tendency of the blood to coagulate, and soon paralyzes the heart entirely, and does not excite respiratory efforts. Where respiration has been re-excited, though the hot bath has no immediately bad effect, it tends to produce a fatal result after some hours, by causing extreme congestion of the lungs, and consolidation and collapse of the pulmonary tissue.

XI.—*Letter to the President of the Society, relative to the preceding Paper on Asphyxia, and the Use of the Hot Bath.* From SIR BENJ. BRODIE, Bart., &c.

This paper was called forth by the paper of Dr. Waters, and its object is to show, that the heart of full-grown, warm-blooded animals does not continue to act, so as to carry on the circulation, for more than a very few minutes after complete immersion, probably 4 to $4\frac{1}{2}$ minutes, but that if the heart be exposed to the air, some contractions of the muscular fibres may be observed at a much later period, which, however, are not the rhythmical contractions, necessary for the circulation of the blood, and are of no value. Once the rhythmical action has ceased it cannot be restored. But it is quite otherwise where the heart's action has ceased in cases of syncope, as in the case of a girl, who recovered under Mr. Wooley's care, after an immersion of six minutes, but who had fallen into the water in a state of syncope; in this case the left side of the heart is filled with scarlet blood, while in asphyxia it circulates dark coloured blood, unfit for the maintenance of life.

XII.—*A Contribution to the Pathology of the Pons Varolii.* By HERMANN WEBER, M.D., Phys. to the German Hosp., &c.

For the particulars of this paper, which consists of three cases,

illustrating, in some degree, the physiology and pathology of the pons Varolii, we must refer to the original.

XIII.—*On Diseases of the Kidney, accompanied by Albuminuria.* (Second Paper.) By W. H. DICKENSON, M.B., Med. Registrar, &c., St. George's Hospital, &c.

In this paper Dr. Dickenson gives an excellent account of the two forms of Bright's disease—the large, smooth, mottled kidney, and the small granular one—contrasting them clinically and pathologically with one another.

XIV.—*On a Case of Aneurismal Varix in the upper part of the Thigh, following the employment of pressure for the cure of an Aneurism of the Posterior Tibial Artery.* By O. PEMBERTON, M.R.C.S., Surgeon to Birmingham General Hospital, &c.

In this case a man, aged 50, was under treatment by compression for aneurism of the tibial artery, from 17th May, 1857, till the 23rd of April, 1858, the pressure being kept up for several hours daily, first, by a clamp tourniquet, and after three weeks by one of Weiss' compressors; the upper pad being applied at a point between Poupart's ligament and the entrance of the saphenus into the femoral vein. Here the pressure was continued throughout the entire of the subsequent treatment, the lower pad having constantly slipped. The aneurism was cured, and the man's general health improved, and, notwithstanding that the pressure had been kept up on the one spot for nine months, yet there had been no inflammation of the adjacent parts, no enlargement of the neighbouring glands, and, indeed, no alteration in the extremity generally, or in the textures immediately underneath the pad, save, perhaps, that they were somewhat thickened and œdematous.

He remained in good health for ten months, earning his living as a hawker, and travelling long distances, when symptoms of aneurismal varix showed themselves at the point where the pressure had been applied, and from which he continued to suffer till his death, about 20 months afterwards. On examination, the whole of the arterial system was found in an atheromatous condition, and a communication was found between the femoral vein and artery at the seat of the pressure, which Mr. Pemberton believes to have been the result of the changes produced in the vessels, in their unhealthy condition, by the long continued pressure.

XV.—*On a Case of Aortic Aneurism in which a communication with the Pulmonary Artery was recognized during life by means of physical diagnosis.* By W. F. WADE, M.B., Senr. Phys., Queen's Hospl., Birmingham, &c.

This case is important as being, we believe, the first on record in which the peculiar condition was recognized during life, and, we therefore, extract it in some detail.

A railway porter, aged 35, complained of slight cough, some general debility, and a little loss of flesh, which he attributed to loss of blood from piles, but which led to a stethoscopic examination of the chest, when no sign of disease of the lungs was found; but the following condition:—

“Physical examination showed that the cardiac dulness was increased in the vertical direction. The apex could be distinctly seen and felt beating in the sixth intercostal space, and the heart was also to be seen beating in the fifth. Over the cartilage of the fourth left rib two loud murmurs were heard, instead of the usual cardiac sounds; that, with the second sound, being of a hissing character, and so prolonged, as to continue till the commencement of the next ventricular systole. At this same spot a very considerable purring tremor accompanied the second murmur. The first murmur was of a loud bellows character. Both murmurs were audible as high as the bifurcation of the common carotids, in the back, and over all the upper part of the chest; they did not seem to be peculiarly propagated towards the left subclavicular space. At the apex of the heart a single murmur only was to be heard, and this evidently attended, or rather replaced, the cardiac first sound; it could be traced easily down to the ensiform cartilage. At the apex, the cardiac second sound was very distinct and quite natural; no trace of murmur.

“I found no venous distension or pulse. The pulsation of the carotids was very visible, particularly on the left side, and marked by some, though not considerable, thrill. The heart's action was quiet and regular.

“The only abnormal physical sign in the lungs was some mucous râles at the base of each, equally on either side. Pupils contracted, but mobile; liver enlarged, no icterus; urine normal.

“From this combination of physical signs, I concluded—

“1st. That blood escaped either from the aorta or the pulmonary artery during their systole, from the loud hissing, prolonged murmur replacing the second sound at the base of the heart.

“2nd. That it was probably from the aorta that the blood escaped, from the propagation of the sound up the arteries of the neck, and their visible pulsation and sensible thrill.

"3rd. That the blood did not regurgitate into either ventricle, from the absence of any regurgitant murmur at the apex of the heart, where, on the contrary, an ordinary second sound was audible. It is true that slight regurgitant murmur is not necessarily conveyed to the apex of the heart; but I have never yet found it absent there, except when the murmur was very slight, whilst in this case the murmur was very loud and hissing at its point of origin.

"4th. That the blood probably regurgitated into one of the auricles, or into the pulmonary artery.

"That it did not regurgitate into the left auricle; inasmuch as, had it done so, we should have found more decided pulmonary engorgement, and hemoptysis rather than hemorrhoids or hepatic enlargement.

6th. That the opening was rather into the pulmonary artery than into the right auricle; because aneurisms more frequently perforate the former.

"Further, the *frémissement* was to the left of the sternum, whereas in recorded cases of openings into the right auricle the *frémissement* presented its maximum intensity at the right of the sternum.

"7th. That the communication was probably owing to aneurismal perforation of the aorta at or near its origin. Because there was no history of cyanosis to indicate any congenital malformation of the heart. The increased vertical dulness, age, formation, and occupation of the patient, as well as some points of his history, lent strength to this view.

"8th. That the aneurism sprang from the root of the aorta, or near it."

XVI.—*Account of a Case in which the Corpus Callosum and Fornix were imperfectly formed, and the Septum and Commissura Mollis were absent.* By J. L. H. DOWN, M.D., Assist. Phys., London Hospital, &c.

XVII.—*Syphilitic Inoculation, and its relation to diagnosis and treatment.* By H. LEE, F.R.C.S., Assist. Surg. to St. George's Hospl.

The following are the conclusions arrived at by Mr. Lee, on this subject—we give them in his own words:—

"The principal conclusions to which I have been led in reference to the different points which I have now had the honour to lay before this Society, are, that there are two forms of syphilitic disease, distinguished in their origin by the adhesive and suppurative kinds of inflammation. That one is followed by constitutional symptoms, and that the other is not.

"That the adhesive form of inflammation may be distinguished from

the suppurative by the nature of the secretion which it produces, and by the results of inoculation.

“That both kinds of action may be communicated to the same individual at the same time, and that then the suppurative action will develop itself first, as having the shortest period of incubation, and subsequently the adhesive action will run its regular course.

“That when these two actions are developed upon the same part, the affection which results has not the characters exclusively of the adhesive or of the suppurative inflammation. A mixed form of disease presents itself.

“That the specific adhesive inflammation may be communicated to a person who has not previously had the disease, either directly by means of the discharge from a primary sore, or more indirectly through the secretions of a person affected with secondary symptoms.

“That this latter mode of communication is not so common as the former, and appears to take place in general only when the part from whence the secretion is derived is in a state of increased or unhealthy action.

“That under the circumstances last named, any open sore or abraded surface on a syphilitic patient *may* furnish an inoculable secretion.

“That such open sore, or abraded surface, may be caused by mechanical irritation, by any secondary form of eruption, by a vaccine vesicle, or by a local suppurating syphilitic sore, in a person previously syphilitic.

“That the blood of a syphilitic patient *may* communicate syphilis to a person previously unaffected with the disease.

“That the cow pox and syphilis *may* be inoculated at one and the same time, and that when such a twofold inoculation does take place, the results are, in some respects, analogous to those which follow the inoculation at the same time of an infecting and suppurating sore.

“That the pure vaccine lymph, even from a syphilitic subject will not communicate syphilis.”

The remaining papers in this volume are, 1st, a valuable essay on Fibrinous Obstructions in the Arteries, both of the Brain and other organs, by S. W. Sibley, F.R.C.S.; next, an account by Mr. Hulme, of the London Ophthalmic Hospital, of a man in whom both Irides were absent from birth; and a case detailed by Mr. Meadows, of Lowestoft, of a man who, for fourteen months, suffered from spasms of a tetanic character; and in whom, after death, there were found several spots of effused blood on the cord, and a flattened clot, not recent, about the size of a sixpence, on the front of its cervical portion opposite to the body of the fifth vertebra

Pathological and Practical Observations on the Diseases of the Abdomen, comprising those of the Stomach and other parts of the Alimentary Canal, Oesophagus, Cecum, Intestines and Peritoneum. By S. O. HABERSHON, M.D., Senior Assist. Phys. to Guy's Hospital, &c. 2nd Edition. London: Churchill. 1862. 8vo, pp. 594.

WE must surely be well pleased with this edition of Dr. Habershon's work. When the first edition appeared, we reviewed it at very considerable length (Vol. xxv., p. 105), analyzing its contents, and giving it no scanty meed of praise; but, at the same time pointing out certain defects, and making suggestions that we thought calculated to make the book still better and likely to be more useful; and we now find that the author has not only taken our suggestions in good part, but has in fact incorporated our review in his work, a great part of the new matter of this edition being actually derived from our review. Under these circumstances, what is there for us to do but to express our conviction of the excellence of the result, and to thank the author for the high compliment he has paid us in so fully adopting our suggestions. At the same time, we must confess that we would have been still more gratified had he acknowledged our services, and had he, when he did refer to us, given us our right name and designation.

On this latter point we wish to draw attention to the fact, that we are the *Dublin Quarterly Journal of Medical Science*, and not the *Dublin Review*, as Dr. Habershon calls us, which is the title of a theological journal recently established in this city; nor the *Dublin Quarterly Journal of Science*, which is another new journal whose name is likely to be confounded with ours, and which treats of general science and not of medicine.

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

REPORT ON PSYCHOLOGICAL MEDICINE AND DISEASES OF THE NERVOUS SYSTEM.

PARALYSIS.

THE general term paralysis includes both loss of perception and loss of the power of motion. Lesions of perception may affect common sensation, to which Nosologists apply the term *anesthesia*; or the perception of the sense of pain only, to which the term *analgesia* has been applied; and, according to Brown Séquard, other specific senses may be affected without the production of common anesthesia, such as the perception of temperature, of tickling, &c.; but these views are not yet fully established, and no specific names have been applied to such forms of paralysis.

Loss of motive power may depend on disease of the muscles themselves, or of the nervous system; to the latter the term *paralysis* is somewhat arbitrarily restricted; to the former the term *paresis* has been applied, and by Romberg *acinesis*. Friedberg describes the affections of the muscles under the general description of *myopathia*, of which he makes six subdivisions, viz.:—1. From propagation of a similar morbid process from adjoining organs (*myopathia propagata, sive communicata*), as paralysis of the contiguous muscles in peritonitis, pleuritis, pericarditis, &c., affections to which Dr. Stokes has so forcibly drawn attention. 2. *M. traumatica*. 3. *M. rheumatica*. 4. From diseased conditions of the blood, *M. dyscrasica*, as in the paralysis occurring as a sequel to cholera, dysentery, typhus, gastric fever, and the exanthemata, and under this head diphtheritic paralysis might also, perhaps, be included, though in some respects it bears a close resemblance, to the peripheric and reflex forms of paralysis depending on disease of the nervous system. Dr. Friedberg's remaining divisions are—5, from diminished supply of blood and

diminished exercise, *M. marasmodes*. 6. *M. simplex*, under which he includes all those cases in which the cause is not evident.

Of paralysis from disease of the nervous system, two specific forms have recently attracted much attention—"General paralysis of the insane," and "Ataxie locomotrice progressive;" and another form has also been much under discussion, viz., "Atrophie musculaire progressive," whose place is not yet decided, pathologists not being agreed as to whether it depends on disease of the muscles themselves, or of the nervous centres. There has been not a little confusion as to the nomenclature of these three forms of paralysis—almost every writer proposing a new name, according to the peculiar pathological views as to their nature that he may have adopted; and many of the new names, besides being cumbrous in the extreme, are liable to mislead, from their involving theoretical considerations. Under these circumstances, it appears advisable to adopt the system to which Trousseau has lent his influence, and append to each form the name of the physician who has either first recognized the disease, or first fully described its leading features. Such names involve no theoretical considerations, they serve admirably as provisional terms to secure clearness and distinctness of definition, and form graceful tributes to the eminent physicians whose contributions to our knowledge they signalize. We have ample precedent for so doing—in Bright's disease of the kidneys; Addison's of the supra renal capsules; "Graves' disease," as Trousseau calls exophthalmic goitre; and Corrigan's disease, or permanent patency of the aortic valves, the disease with which Dr. Banks has proposed to associate the name of the present President of our College of Physicians.

Two of the forms of paralysis under consideration have already been associated with the names of Bell, Cruveilhier, and Duchenne, and we now propose to attach the name of Calmeil to that form he was the first to describe, and for which we have not yet arrived at any clinical or pathological definition of universal application, though at least fifteen^a different names have been given to it. The latest of these is "paresifying mental disease," which has been proposed by Dr. Salomon, in a paper lately translated from the Swedish by our learned townsman, Dr. W. D. Moore. This paper contains, perhaps, the most complete and elaborate discussion of the clinical and pathological features of the disease that has appeared; but the name proposed for it is peculiarly badly chosen—the

^a We subjoin some specimens of these names: General paralysis; progressive paralysis of the insane (Wood); dementia paralytica; paralytia generalis progressiva; paralysis progressiva; anoxia paralytica; dementia paralytans. The French have called it aliénation ambitieuse avec paralysie incomplète (Bayle); démence paralytique; folie paralytique (Parchappe); paralysie générale incomplète (Calmeil); paralysie générale progressive, &c. The Germans call it Geisteskrankheit mit Paralyse; allgemeine progressive Gehirnlahmung; paralytischer Blödsinn.

term *paresis*, which has no definite meaning of its own—having had at least two other applications already, viz., to cases of incomplete loss of power by Romberg, and as a synonym for *acinesia* by Bang.

GENERAL PARALYSIS, OR PARALYSIS OF CALMEIL.

This disease may be said to have been unknown, until it was fully described in the “Memoire” published by Calmeil in 1826, though Haslam referred to it in his “Observations” in 1809, and Boyle in 1822, but till Calmeil drew attention to it, it was not generally recognized, and even Dr. Conolly admits that he did not know it, and yet it has always been of frequent occurrence, and contributes, in a large proportion, to the mortality of the insane.

General paralysis has been thought to be peculiar to those cases of insanity characterized by ambitious, exalted, and extravagant ideas, and sometimes supervening on melancholy, or by hypochondriacism; and to always progress steadily from its first insidious commencement to its fatal termination in general palsy. In a paper in the *British and Foreign Medico-Chirurgical Review* for July, 1860, Dr. Wood criticizes the names hitherto applied, and especially the term general paralysis, as very unsuitable, and proposes to substitute *Progressive Paralysis of the Insane*; but it now appears that not only is the disease not always “progressive,” but that it may occur independently of insanity.

Dr. Skea, in an important paper on general paralysis in the *Edinburgh Journal*, alludes to a case which was under the care of Dr. W. T. Gairdner, and in which were present all the physical signs of general paralysis which had affected the patient for five years, without any insanity or affection of the intellectual powers beyond slight embarrassment. Dr. Skea is convinced that if the disease without insanity is to be regarded as a distinct one, it is one very closely allied to the general paralysis of the insane. The following marked case has also been recorded:—

General Paralysis (Progressive) without Delirium. By M. VERGA.—*Gazetta Medica Italiana—Lombardia*; and *Annales Medico Psychologiques*.

The subject of the case narrated by M. Verga was a physician endowed with high intellectual power. In the year 1837 he became a prey to the most profound grief, which was concealed from all eyes, but the impression of which was terrible. For three years he resembled a statue, and at the end of this period he appeared to awake as if from a dream, but remembered all that had passed. There did not appear to be any diminution of his intelligence, but his bodily health had suffered. He had cerebral congestion, followed by hemiplegia. There now existed

cross-paralysis, and the muscles of the left side of the face were relaxed, and then diminution of sight and hearing at the same side. In the year 1844 he was again the subject of a seizure which lasted a year and a-half, and again he suddenly recovered his intelligence, as on the former occasion. In 1855 there was a third attack; he was then 77. He was now unable to rise from the recumbent posture, and finding that all the remedial measures were of no avail he gave himself up as lost. The acuteness of his senses and the power of the muscles gradually diminished, the sense of smell alone was unaffected. The paralysis extended to the intestines and the bladder. In 1859 he wished to make his will, and the great philologist and reformer of Italian Lexicography was compelled to affix a cross in place of his signature.

For some time before his death, which took place at the beginning of 1861, he was altogether confined to bed. Notwithstanding the lesions of the functions of sensibility and of the power of motion, Dr. G. never exhibited impairment of the power of articulation. Although constantly pre-occupied with his sufferings he preserved his sentiments, his affections, and the rectitude of his judgment. Up to the period of the loss of his sight he enjoyed reading good books—the milk of old age. Only in the last few days of his life he was the dupe of hallucinations of sight and hearing. This most remarkable case presents an example of a rare disease, and one only described of late years—general progressive paralysis without delirium.

As a rule this form of paralysis is “progressive,” not so much in *extent* as in *intensity*; but in the following cases the disease made rapid progress in one, not only in intensity, but in extent also, causing death by asphyxia, and in the other it failed in its character of progression, and was arrested—the patient being restored to health.

Acute Progressive General Paralysis. (*L'Union Médicale.*)—Gomes de Valle reports two cases. The first was a soldier at 20, who, after experiencing abnormal sensations in the feet for a short time, was seized with paralysis of the lower extremities. The upper extremities soon became affected in like manner, and afterwards the pharynx, cesophagus, and the respiratory muscles.

In a fortnight after the paralytic symptoms appeared, the patient died in a fit of asphyxia.

In the second case the paralysis followed an attack of double pneumonia, and quickly attained the same extent as in the first case. In a few months the patient was restored to health.

Symptoms of General Paralysis of the Insane.—In addition to the remarkable modification of articulation, which is one of the earliest symptoms, and the peculiar mental disturbance of the early stages, attention has recently been directed to the following symptoms as likely to assist in the diagnosis.

The State of the Pupils in General Paralysis. By DR. AUSTIN.

In the early stage of this formidable disease, Dr. Austin says, the pupils are contracted to such a degree as to merit the term pin-point pupils. They are immovable; the vision is not altered. This state is rare. A condition allied to this is when the pupils are contracted, but not to the same extent, and remain symmetrical. A more frequent alteration in the state of the pupils is that in which, with a considerable diminution of the mobility, there coincides a slight alteration in the symmetry. The form is no longer round, but irregularly polygonal. In some the form of the pupil is triangular or trapezoid. One pupil may be contracted and immovable, while the other preserves its mobility and its normal dimensions. When the pupils are but slightly unequal, and the form circular, it is difficult sometimes to ascertain which is the affected eye. It is then expedient to examine the eyes in an apartment which is rather dark—when the one pupil will be found to dilate more than the other. This is preferable to the ordinary mode of examining by a candle, at least in cases of general paralysis of the insane.

Dr. Austin, in addition to his minute descriptions of the state of the iris, informs us that he has established a connexion between the state of the iris and the character of the delirium; and he says he is daily more convinced that the low form of delirium, melancholia, is associated with lesion of the right pupil, and excitement and the *délire ambitieux* with lesion of the left.

The conclusions derived from the observation of 100 cases are the following:—

1st. When the pupils are equally and slightly affected there is no delirium.

2nd. When the alteration of the pupils is manifest and equal in both eyes the delirium is mixed or alternating.

3rd. When the two pupils are affected—but one a little more than the other—the delirium is mixed, but with predominance of the form which corresponds to the eye most affected.

4th. When the right pupil is most altered melancholia prevails.

5th. When the left, maniacal excitement.

Of his 100 cases there were but two exceptions to these rules.

We believe that the experience of psychological physicians will not be found to support Dr. Austin's views. One physician of great experience, Dr. Skae, has published the results of his observations with reference to the *supposed* connexion between the pupil and the delirium, which go to prove that "there is no connexion between the pupil affected and the character of the mental symptoms."

Expression in General Paralysis. By DR. TUKE.

Dr. Tuke points out that even in a very early stage there is a marked

look of indifference, frequently accompanied with drooping of the upper and infiltration of the lower eyelids, and a heavy sensuous expression about the mouth, and that there is a boyish appearance of the face—the partially paralyzed muscles no longer showing the lines indicative of care, of sorrow, of ambition, or remorse. At an early period, he says, a peculiar carriage of the head forms a very prominent feature. It is no longer unconsciously balanced upon the shoulders as in health, the patient seems to support it by a voluntary effort, and there is thus a rigidity of the neck induced, which he thinks very characteristic of the disease.

ATAXIE LOCOMOTRICE PROGRESSIVE—PARALYSIS OF TODD AND DUCHENNE.

The disease known under this title closely resembles, or is identical with, that long known as “*Tabes dorsalis*.” M. Duchenne further developed its nature in a series of papers published in the *Archives Generales*, in 1858 and '59, but our own countryman R. B. Todd, fully recognized the disease many years before, and described its pathology more correctly than Duchenne, and we, therefore, associate his name with that of Duchenne, which had before been given to it by Trousseau.

The seat of the disease Duchenne thought to be in the cerebellum, corpora quadrigemina, and intervening commissures, but subsequent investigations tend to show that it is in the posterior columns of the spinal cord, where it had been located by Dr. Todd long before, as has already been recorded in our pages.^a

The attention of our foreign collaborateurs may be directed to the article “*Physiology of the Nervous System*,” in the *Cyclopedia of Anatomy and Physiology*, by the editor, Dr. Todd (1847). That Dr. Todd was aware that the diseased state to which the name “*ataxie*” has recently been given was connected with lesion of the posterior columns of the spinal cord, is beyond all question. He says:—“I have long been strongly impressed with the opinion that the office of the posterior columns of the spinal cord is very different from any yet assigned to them. They may be in part commissural between the several segments of the cord, serving to unite them and harmonize them in their various actions, and in part subservient to the function of the cerebellum in *regulating* and *coördinating* the movements necessary for perfect locomotion. The posterior columns come into exercise in balancing the trunk, and in harmonizing its movements with those of the lower extremities. Some support is obtained for this view of the functions of the posterior columns from the phenomena of disease. In many cases in which the principal symptom has been a gradually increasing difficulty of walking, the posterior columns have been the seat of disease. Two kinds of paralysis of motion may be noticed in the lower extremities—the one consisting simply in the impairment or loss of voluntary motion; the other distinguished by

^a See Vol. xxxi., p. 417.

a diminution or total loss of the power of coördinating movements. In the latter, while considerable voluntary power remains, the patient finds great difficulty in walking, and his gait is so tottering and uncertain that his centre of gravity is easily displaced. In two examples of this variety of paralysis I ventured to predict disease of the posterior columns—the diagnosis being founded upon the views of their functions which I now advocate—and this was found to exist on a *post-mortem* inspection; and, on looking through the accounts of recorded cases in which the posterior columns were the seat of lesion, all seem to have commenced by evincing more or less disturbance of the locomotive powers.”

M. Bourdon published a paper on this subject in the *Archiv. Gen.* for Nov. 1861, showing that the disease was seated in the posterior columns of the cord; and M. Oulmont has since recorded another well-marked case, in which a similar condition was found, and also showing that, like general paralysis, the disease is not always or necessarily “progressive.”

Observation d'Ataxie Locomotrice; Arrêt de la Maladie et Amélioration pendant Six Mois; Mort par Congestion Cérébrale; Autopsie. Par. M. OULMONT, Médecin de l'Hôpital Laraboisière. (L'Union Médicale).

M. Oulmont's object in communicating a report of a case of “ataxie locomotrice” was to add a new fact to those which form the basis of the memoir of M. Bourdon. The following is a brief history of the case:—

A man, aged 35, stated that he did not remember to have ever been ill in his youth. At the age of 30 he had a chancre, and was under medical treatment for three months. Again, at 32, he had chancre and blennorrhagia; the glands of the groin at the right side were the seat of inflammation, and he was again subjected to antisyphilitic treatment. On the 5th of July, 1859, he first experienced pains in the lower extremities. The pains were dull and deep-seated, commencing in the knees, and extending along the front of the legs to the feet; more acute on the left than the right side, and shooting along to the toes. The character of the pain was intermittent; and at night he was sometimes awakened with a start. He frequently complained of cramps and formication. The ability to walk still continued; but, owing to the weakness of the lower extremities, he found it impossible to work. The appetite was unimpaired, and there was neither headache nor pain in the renal regions. The pains in the limbs persisted for about six months; progression became more and more difficult, and in darkness it was absolutely impossible. He felt the ground in walking; but his knees bent suddenly, and he was in danger of falling: finally, he observed that the left leg was often projected outwards. By degrees the pains of the lower extremities subsided, or at least only appeared at intervals more and more distant—the change of weather seeming to have some influence in their production.

The lower extremities had not been solely the seat of the symptoms; for two years the patient had found that he could scarcely dress himself, and he perceived a tingling sensation at the ends of his fingers; but there were neither pains nor cramps in the arms. At the expiration of 18 months he entered the Hotel-Dieu, where he remained for three months and ten days, having been treated by electricity, from which he did not seem to derive much benefit. While in the hospital he contracted small-pox, under which he laboured for some weeks. The pains continued to return at intervals; progression was difficult, and he frequently fell; the formication of the upper extremities was also persistent; the appetite remained good, and the head was undisturbed; there was little impairment of the sense of sight or of hearing.

On the 3rd of December, 1860, he was received into the Lariboisière. *State on admission*:—Signs were present of general bronchitis and pulmonary emphysema. The condition of the lower extremities at once attracted attention. The muscles did not appear wasted, and they contracted under the hand when compressed; the movements are easily performed when the patient is in bed; but when he is up the scene at once changes. The legs are the seat of a tremor, or rather a kind of hesitation, which caused him always to seek a support in walking. He constantly looked at his feet, as if his sight were necessary to aid him in walking a few paces. The hesitation was more marked when his eyes were closed; then it became impossible for him to walk a step without being supported: he threw one leg forwards with a jerk and it fell heavily, so that every attempt at walking with his eyes bandaged was useless, and endangered his falling. He had pains in the lower extremities, but they were less severe than they had been, and only returned every five or six days, and were never of a boring character. When the body is in the horizontal position there is a considerable amount of contractile power, but on flexing or extending the leg on the thigh it becomes almost impossible for him to change his position.

The sensibility of the skin is complete as is that of the muscles. The patient has experienced for the last six months a notable diminution of the aphrodisial desires; however he had sometimes erections at night, and nocturnal pollutions at long intervals. There is a tremor in the upper extremities, but not so much as to render them unequal to the performance of their ordinary functions. There was a sensible amelioration in his state towards the following March; the pains of the lower extremities only returned at longer and longer intervals, being often absent for eight days—and their severity was diminished; finally he could walk with more ease, and the falls were unfrequent. He was even able to take exercise in the garden with the other patients, and to assist the attendants of the hospital. However, there was always some hesitation in his walking; and, on being ordered to shut his eyes, the titubation became more

manifest, with a tendency to fall. The upper extremities had gained more power. This condition remained stationary for six months—to the end of December—when he left the hospital, after one year's residence.

On the 8th January, 1862, the patient was readmitted. He had cough, with muco-purulent expectoration; no night sweats, no palpitation, no headache, no buzzing noise in the ears. Hearing and sight unaltered; memory unaffected from the commencement of the illness; the spinal column unchanged; the muscles of the lower extremities were somewhat wasted; they contracted with ease under the influence of volition; there was no coldness of the extremities, and the cutaneous sensibility remained intact; the upper extremities were now a little wasted also, and the tingling of the fingers' ends continued; prehension of small objects was difficult, and buttoning the shirt could scarcely be accomplished; walking, however, even without a cane, was easy, but he projected the legs forwards; he felt the ground, and the slightest inequalities, but on shutting the eyes he staggered.

January 16.—The patient who, up to this time, rose every morning, and appeared to be well, with the exception of the lesion of motion, complained of epigastric pains; he had vomited bilious matter, and for some days there had been no alvine evacuation. He had cough; and, on examination, fine rales were audible over the whole extent of the chest posteriorly; pulse, 80; expression of the countenance slightly altered. 17th.—No change. 18th.—During the night, delirium and attempts to get out of bed. At the morning visit—headache, but the intelligence intact; no recollection, however, of the disturbance of the preceding night. In the evening the patient was found pale, and lying without consciousness or motion; the head drawn back, the trunk extended; pulse, 90 and small; respiration stertorous; face much altered; pupils dilated; on pricking different parts of the right side slight movements were excited; the left side was insensible. Pressure on the back of the neck caused pain, evinced by heavy groaning; the limbs were in a state of complete resolution; when raised, they fell inertly. The foregoing symptoms led to the belief of the existence of cerebro-spinal meningitis. A large blister was applied to the head; and during the dressing the patient executed some feeble automatic movements. Coma continued, and death occurred at five o'clock in the evening.

Autopsy—40 hours after death. *Lungs*—emphysema and hypostatic congestion of the right. *Heart*, perfectly normal. Digestive tube normal. *Liver*, presented an example of cirrhosis in the second degree. Spleen small and dense. Kidneys large and congested. Brain—Injection of the pia mater of the convexity of the hemisphere well marked, especially between the middle convolutions at the left side; the membranes did not adhere to the grey substance. The pia mater on the inferior surface of the cerebellum presented a slightly opaline tint. All parts of the brain

appeared perfectly healthy. *Rachidian Canal*—The spinal pia mater was found very much injected posteriorly; vessels varicose, and gorged with blood, particularly about the posterior roots; the injection was more prononcée the nearer the cauda equina, where it was of a violet hue. The spinal marrow did not present any injection on the anterior surface. There was no appreciable softening of the spinal marrow. The posterior roots were greyish, collapsed, and surrounded with numerous vascular ramifications. The anterior roots, on the contrary, had preserved in perfection their dull white appearance. The posterior columns in the lumbar region were greyish; and here and there the tint passed into an amber yellow. The same degeneration existed in the superior regions of the cord, but it was more limited in extent. The gelatinous substance which corresponds to the points of implantation of the posterior roots in the lumbar region was hyperemic. The grey substances of the fourth ventricle, and of the tubercula quadrigemina were also notably vascular. The lesion was localized in the posterior columns, the anterior and lateral not presenting any marked alteration.

An interesting fact was noted—viz., that, in the nervous substance which had undergone transformation there existed a prodigious quantity of amyloid bodies; they were more abundant in the inferior region of the posterior columns; in the superior they almost disappeared. These amyloid corpuscles assumed a deep red tint, by the action of tincture of iodine; but the combined action of sulphuric acid and tincture of iodine did not render them manifestly blue, it only changed them to a deeper shade.

The history of this very interesting case proves that the disease is not, at least always, as it is generally supposed to be, uninterruptedly progressive. There was here not merely an arrest of morbid action, but a positive improvement in the patient's state; for, from being scarcely able to use his lower extremities, he had regained so much power that a few days before his death he could walk alone, and without the aid of a stick.

With respect to the pathological changes observed in this case we may observe, that they confirm the views of our distinguished countryman, Todd. More recent observers have done little more than confirm his theory of the action of the spinal cord. This fact also has already been dwelt upon in these pages, but it is necessary to again revert to it.^a

In a new memoir, published since M. Oulmont's, M. Bourdon again discusses the pathology of the disease; and Trousseau has more recently made it the subject of a clinical lecture.

Nouvelles Recherches Cliniques et Anatomiques sur l'Ataxie Locomotrice progressive. Par le DR. BOURDON, Médecin de la Masion Municipale de Santé. (*Archivés Generales de Medecine*).

The first memoir of M. Bourdon on the subject of Ataxie Locomotrice

^a See Vol. xxxix., p. 117.

was published last year. He reports a case which answers the description given by Duchenne, so far as the symptoms, the progress, and the termination are concerned—loss of the power of coördination of the movements of the legs, with conservation of the muscular power, paralysis of the third pair of nerves, myopia, impotency, and long duration of the disease—death was occasioned by an intercurrent affection.

One symptom, however, which M. Duchenne considers characteristic, was wanting, viz. :—the boring pains in the limbs; but this symptom was also absent in the cases recorded by M. Jules Lecoq. Pain, intolerable in degree, existed, but it was continuous, and its seat was the nucha—a second equally unusual circumstance was noticed in this case, namely, the absence of anesthesia and cutaneous analgesia even at the soles of the feet, whereas these lesions of sensibility generally show themselves when the disturbance of coördination is little advanced.

Taking into account the symptoms presented by the patient, M. Bourdon expected to find a lesion of the cerebellum, calling to mind the researches of MM. Flourens and Bouillaud on the functions of that organ and the observation of Duchenne, that if any anatomical alterations be found in ataxie locomotrice they ought to be found in the cerebellum, believing that it presides over the coördination of movements. Notwithstanding the most rigorous search, aided by the microscope, nothing could be discovered except slight and partial congestion, to which little importance could be attached. The spinal marrow however, presented marked alteration amounting to actual degeneration. The posterior columns, the corresponding roots, and the grey substance were most profoundly and characteristically changed. Since the publication of M. Bourdon's observations the subject of ataxie has attracted much attention, and many cases have been observed, and our author has accumulated much valuable and new matter which he presents in the second memoir now before us. The facts recorded, and the experience of M. Bourdon, are confirmatory as to the pathology of the disease. At the reunion of naturalists and physicians held this year at Spire, M. Freidreich, of Heidelberg, referred to a series of facts relative to lesions of the posterior columns of the spinal cord, the symptoms observed during life being alterations of motility of a peculiar character. M. Bourdon, in speaking of the diagnosis of ataxie, notices the fact, that persons labouring under lesions of the cerebellum present phenomena resembling those of the disease under our notice, and difficult to be distinguished from it.

In such circumstances the mode of testing suggested by M. Trousseau is recommended :—The patients are placed upright "*en equilibre*," the feet closely approximated, and then they are directed to shut their eyes. The ataxic will stagger immediately, and even fall if he is not supported; the patient with lesions of the cerebellum will not experience this sudden loss of equilibrium. Care must also be taken to avoid confounding with

ataxie the "maladresse" of movement, which results from paralysis of tactile sensibility of the skin. If such patients allow objects to fall from their hands, it is because they do not feel them, or they feel them imperfectly. If the gait is hesitating, it is because they do not feel the ground. In ataxie if the patient wishes to walk, he projects his legs in all directions, somewhat after the manner of a puppet, often, even with the assistance of a cane, progression and standing are impossible, and one is obliged to support him—almost to carry him—that he may attempt a few steps. When the loss of coördination affects the upper extremities, if the patient desires to seize an object, some of the fingers are extended, separate and stiff, while others are flexed and moved in different directions, until at last they converge, with difficulty, and grasp the object. Some observations go to prove that disturbance of coördination may engage the muscles of the face, the tongue, the larynx, &c. When the face is the seat of the affection, if the patient speaks, the most disagreeable grimaces distort the features. M. Teissier considers the defect of coördination of the movements of the tongue is manifested by a difficulty of speech, not owing to forgetfulness of the words, but to the muscles of the tongue contracting irregularly in pronouncing them. In speaking he articulates incompletely. This difficulty of articulation resembles that which is one of the most characteristic symptoms of the general paralysis of the insane. In some cases the imperfection of speech may depend on anesthesia of the mucous membrane and skin of the lips. According to Cruveilhier, the muscles of the larynx and the respiratory muscles may be affected; in the patient which was the subject of the observation, speech and respiration were feeble and "entrecoupées."

M. Bourdon observes, that if muscular insensibility does not exist, the disturbance shows itself exclusively in the complex movements, the patient continuing to execute the simple in a normal manner, although with a certain "brusquerie;" the locomotive acts require a sustained attention which is very fatiguing, and emotion, or being noticed by a stranger, render them more irregular; the muscles of the ataxic which are so profoundly disturbed in their coördination retain, notwithstanding, their contractile power, an essential character which distinguishes these functional alterations from the veritable paralysis of motion.

Ataxie locomotrice is not always, according to M. Bourdon, the disease described by Duchenne, having its peculiar physiognomy, progressive character, and fatal termination; he believes that it may appear as an isolated symptom in hysteria, in chlorosis, and in the different forms of intoxication, saturnine, alcoholic, and others. In such cases the disturbance of movement exists without the other morbid phenomena which characterize ataxie locomotrice progressive, properly so called. M. Bourguignon has reported a case which presented the disturbance of coördination and which ended favourably in four months—this may be

looked on as a nervous form of the disease, not depending on any organic lesion.

M. Bourdon asks, is the disease, as described by Duchenne, dependent on an organic lesion, or is it a simple neurosis? The answer is that he recognizes *two* forms. He admits the nervous form, but contends for the existence of these remarkable lesions of the spinal marrow in the true ataxie which consist essentially in degeneration, with atrophy of the nervous tubes, of the columns and posterior roots, and an analogous alteration of the cellules of the grey matter. The motor nerves of the eye, and the optic nerve, and frequently its papilla are altered. The observations of M. Duchenne, and of M. Bourdon, conducted by the aid of the ophthalmoscope, have proved, that in the ataxic who are affected with amaurosis or simply amblyopia, there exists atrophy of the papilla of the optic nerve. M. Bourdon gives a number of cases, some of old, and others of recent date, in all there was defect of coördination of movements, accompanied sometimes with amblyopia or amaurosis, and with exceedingly severe pain. Insensibility of the skin was constantly observed; the muscular power was preserved. In 13 autopsies there was found a greyish-yellow degeneration, semi-transparent, having for its constant seat the posterior columns, and in some cases the grey substance of the spinal marrow; there were in addition, atrophy of the posterior roots, sometimes alteration of the optic nerve, and, in one instance, of the tubercula quadrigemina. The microscopic examination of the case reported in the first memoir of M. Bourdon exhibited degeneration with atrophy of the parts referred to with a large quantity of amyloid corpuscles.

Ataxie Locomotrice—Maladie de Duchenne. Par Prof. TROUSSEAU.
(*L'Union Médicale*).

The distinguished physician of the Hotel Dieu, after some preliminary observations, in a clinical lecture on the subject of *Ataxie Locomotrice*, proposes to designate the disease "*Maladie de Duchenne*," and for the same reasons which led him to give the disease, which in France was formerly known as *goitre exophtalmique*, the name, "*Maladie de Graves*." Professor Trousseau says he is aware that Romberg gave a description of the affection under the name of "*tabes dorsalis*," which proves that he had observed *ataxie locomotrice*. and Cruveilhier, in his great work on Pathological Anatomy, had noted the anatomical lesions which the naked eye detects in *ataxie*, but they described certain ill-determined varieties of paraplegia, and neither of them succeeded in fixing attention on this new disease, which they did not look upon as a morbid entity. The learned Professor does not, however, seem to be aware of the accurate description of the disease given by Todd in the passage we have already quoted.

Attention was, he says, first fixed on it by Duchenne. With respect to the pathology of ataxie, M. Trousseau is not prepared to agree with M. Bourdon in the opinion, that it is characterized by fixed and determined lesions. The study of medullary lesions, by the aid of the microscope, is of recent date, and it may be discovered, he says, that, certain paraplegie, different from ataxie, the consequence of epilepsy, chronic alcoholism, and chorea exist, presenting lesions of the spinal cord and the roots of the nerves, if not identical with those observed in ataxie, at least so analogous as to forbid our looking on the pathological changes as specific. In the present state of our knowledge, however, the lesions observed in ataxie should be accepted as proper to it.

The numerous pathological investigations of MM. Oulmont, Marotte, Vulpian, Charcot, and Luys, have confirmed the statements of M. Bourdon—ramollissement of the posterior columns of the spinal marrow, atrophy of the posterior roots, with atrophic degeneration of the nerve tubes and cellules, as also of the optic nerves, the motor nerves of the eye, and the corpora quadrigemina.

That ataxie may exist without disturbance of sensibility, is proved by the case reported by M. Oulmont, and by many analogous cases. In what class is ataxie to be placed? M. Trousseau says, when he defined it for the first time, he considered it a spasmodic neurosis, characterized by a defect of coördination of the voluntary muscles, complicated often with disturbance of sensibility and partial paralysis; to complete the definition he added the special alteration of the spinal cord and the posterior roots.

According to M. Trousseau's views then, ataxie is a neurosis, but a neurosis leading to hyperemia, which induces a modification of nutrition of the cord and roots, and, finally, atrophy and degeneration of the elements of the nervous tissue; but are not other neuroses accompanied by hyperemia and congestion? Does not Graves' disease act upon the heart, the thyroid gland, and the retina, so as to produce anatomical lesions.

The duration and progress of ataxie prove that hyperemic disorganizing action is not continued; there are times of arrest and even of *retrogression*. The conditions which seem to check the progress of the disease should be sought. The duration of the disease affords time to make many efforts—to try many experiments. The beneficial influence of belladonna and opium in alleviating pain has been proved, but they must be administered in large doses. Electricity, limited to the skin, has sometimes restored cutaneous and muscular sensibility, and rendered the coördination of some movements possible; but this is merely palliative.

Professor Wunderlich has been induced to try nitrate of silver in the "tabes dorsalis" of Romberg, by the success he obtained in a case of hysterical paralysis. M. Trousseau, though he has treated some cases

with nitrate of silver, is not as yet in a position to pronounce on its curative action in ataxie locomotrice.

M. Baillarger has contrasted the character of the two forms of paralysis that we have been speaking of in the following essay :—

De la Paralyse Generale dans ses Rapports, avec l'Ataxie Locomotrice et avec certaines Paraplegies. Par M. BAILLARGER, Médecin à l'Hospice de la Salpêtrière. (*Annales Medico Psychologiques.* 1862).

IN the *Archiv. Gen.*, Dec. 1858, there appeared a most interesting memoir from the pen of M. Duchenne (de Boulogne) on "Ataxie locomotrice progressive," a disease, the most striking character of which is a loss of the coördinating power of movement, giddiness, difficulty of standing upright, a sensation of being impelled forward, anesthesia—first, sensation of touch lost, and lastly, that of temperature.

Pains (paroxysmal) duration of which is variable, but always of a boring character. Paralysis of some cranial nerve, often for months or even years, precedes the disease. The sixth nerve is frequently paralyzed at first. Amblyopia frequently exists. The mind is unclouded. The disease is essentially chronic, lasting in some cases for many years. Syphilis, cold, and masturbation have been supposed to cause it.

The age of persons attacked with "ataxie locomotrice" varies from 18 to 43.

As to the pathology, the researches of Duchenne lead him to believe that the cerebellum and corpora quadrigemina are the seat of the lesion.

Such is the disease as described by Duchenne, the connexion of which with general paralysis in some cases has been noticed by Baillarger.

Duchenne has met the two diseases associated, and he has also seen ataxie with hemiplegia, the result of cerebral hemorrhage. With respect to the association of general paralysis with ataxie, it is observed that most frequently the symptoms of general paralysis appear at the first period of the ataxie locomotrice. It is not like some diseases of the spinal cord, which, after existing a long time, become complicated with general paralysis. This disease, on the contrary, may be one of the prodromal symptoms of ataxie, belonging to the period named by Duchenne "céphalique," and characterized by paralysis of some cranial nerve.

In the first case observed by M. Baillarger, the affection of the muscles of the lower extremities was not prononcée when the ambitious delirium broke out.

In another, the patient presented the ordinary prodromal symptoms of ataxie, diplopia, strabismus, paralysis of the third pair, and terebrating pains, subsequently the symptoms of general paralysis supervened—

change of character; loss of memory. Sometimes the disease is far advanced before the ataxic symptoms appear.

It is a matter of much interest to determine, if possible, the influence which one disease exercises on the other, with respect to progress. In one case the general paralysis seemed to arrest the advance of the ataxie, after having presented the signs of the first period, paralytic dementia showed itself: after 18 months nothing remained to indicate the existence of the original disease; the symptoms in no respect differing from ordinary general paralysis.

M. Baillarger observed one patient in whom, the symptoms of general paralysis having existed for six months, the disease had been arrested for the last two years, so much so that there is no sign of embarrassment of speech or of mental aberration. The question to be resolved is, whether these suspensions or cures of general paralysis are more frequent and more lasting in patients attacked with ataxie locomotrice? M. Baillarger says he can do no more than propose the question. One remarkable instance he alludes to in which, on the lower extremities becoming paralyzed, general paralysis in a well-marked form disappeared. It is necessary to guard against falling into the error of supposing that general paralysis is present from the single fact that embarrassment of speech exists, for ataxie locomotrice is sometimes preceded by incomplete paralysis of the lips.

In illustration of this, he refers to a case which presented, for many months, difficulty of deglutition and embarrassment of speech. These symptoms disappeared; but ataxie locomotrice succeeded them, and walking became impossible.

It is essential in all cases, before deciding that a patient labours under general paralysis, to be certain of the existence of lesions of the intelligence. The observations of M. Baillarger prove that the two diseases may develop themselves simultaneously: the patients presenting at the same time the symptoms of general paralysis and ataxie locomotrice to such an extent as to render them unable to preserve the erect posture. Three conclusions may be arrived at from the facts accumulated:—1st. That the general paralysis may continue its progress, but that it seems to arrest that of the ataxie locomotrice. 2nd. That the general paralysis may be cured, while the ataxie pursues its onward course. 3rd. That the two diseases proceed *pari passu*.

In one case diplopia, strabismus, and terebrating pains in the limbs were present; and subsequently, without any special derangement of the coördination of movements, the symptoms of general paralysis manifested themselves. Did ataxie precede the general paralysis here? M. Duchenne would not hesitate in replying in the affirmative. He doubts not that ataxie is established when terebrating pains are united to the other prodromal symptoms. To this opinion M. Baillarger believes there are serious objections.

M. Duchenne, in establishing the differential diagnosis of the diseases under consideration, relies upon the fact that strabismus does not belong to the symptomatology of general paralysis of the insane; and that the same may be predicated of amaurosis. Esquirol, however, looked upon strabismus as a precursory sign of the greatest value as indicating the approach of general paralysis. In three cases under the observation of M. Baillarger this sign preceded and accompanied the disease. In one of the three an autopsy revealed the presence of a little hydatid in the brain. Strabismus and ptosis have also preceded general paralysis; and again, amaurosis has been found to exist for six months before the establishment of the malady—the patient becoming subsequently completely blind. In point of fact, in some cases, amaurosis has preceded every other symptom in general paralysis. Cases are given by Lelut, Lasègue, Parchappe, and by Calmeil. The latter high authority states that loss of vision, whether it be of one eye or both, coincides occasionally with the manifestation of the first symptoms of embarrassment of speech. Strabismus and amaurosis, which play so important a part in the first period of ataxie locomotrice, are not altogether foreign to the symptomatology of general paralysis of the insane.

M. Brierre de Boismont has observed diplopia and paralysis of the fifth pair. There only remain the terebrating pains to be disposed of. A patient in the Salpêtrière, labouring under general paralysis, suffered paroxysms of severe pain in different parts of the body. M. Lasègue reports a case of paralysis (general) preceded by paroxysmal pains. It seems demonstrated that, in a certain number of cases, strabismus, amblyopia, diplopia, and ptosis precede an invasion of general paralysis; but there is no observation of these symptoms being united to terebrating pains, such as occur in the first period of ataxie locomotrice.

M. Baillarger has recently made an important communication on hypochondriacal insanity as a forerunner of general paralysis. We have long been aware of the fact that the ambitious form of insanity is frequently connected with the disease; but the connexion of hypochondriacal melancholia has not, we believe, until now been suggested.

Numerous are the illusions under which M. Baillarger's patients laboured. No organ in the body which has not been believed to be absent. No stomach, therefore no use in taking food. One patient believed he could not pass water—retaining it until the bladder was so distended that finally he was unable to empty the organ. This form of mental alienation M. Baillarger considers a precursor of general paralysis; and moreover, he looks upon its presence as an unfavourable omen as regards the course of the disease.

Can we then prognosticate with certainty the advent of general paralysis by the presence of hypochondriacal insanity. The facts adduced by Baillarger go far to establish the doctrine. That the expan-

sive form of mental aberration is a frequent precursor of this formidable affection seems to be admitted by all who have had much experience in mental disease.

Treatment of Ataxie locomotrice.—Prof. Wunderlich, led apparently by accident, discovered that nitrate of silver exercised a remarkable and unexpected influence over this disease; and MM. Charcot and Vulpian have followed up the suggestion made by Wunderlich.

Sur l'Emploi du Nitrate d'Argent dans le Traitement de l'Ataxie Locomotrice Progressive. Par MM. CHARCOT ET A. VULPIAN, Professeurs agrégés à la Faculté de Médecine, and Médecins de l'Hospice de la Salpêtrière. (*Bulletin Gen. de Thérapeutique Médicale.*)

The investigations of MM. Charcot and Vulpian on the therapeutic power of nitrate of silver in ataxie locomotrice, have been suggested by Professor Wunderlich's communication on the subject, entitled "*Erfolge der Behandlung der Progressiven Spinalparalyse, durch Silbersalpeter,*" published in the *Archiv der Heilkunde*, 1861. Any remedial measure proposed by so distinguished a physician as the author of the admirable work "*Handbuch der Pathologie and Therapie*" should receive a fair trial at the hands of the profession, but there is an additional inducement when we reflect upon the nature of the disease for which the remedy is proposed, and the utter inefficiency of all measures hitherto employed to stay its fatal progress. No one, who has written on progressive spinal paralysis, has borne stronger testimony to its intractable character than Romberg in his *Lehrbuch der Nervenkrankheiten*. He says, "There is no prospect of recovery for patients of this class—the fatal issue is unavoidable; the only consolation which can be offered to those fond of existence, is the long continuance of the disease. If, in any case, the busy activity of the physician increases the sufferings of the patient, it is *in tabes dorsalis*. It is but common humanity to inform him at once, that therapeutic interference can only injure, and that nothing but the regulation of his diet, can retard the calamitous issue."

He condemns cupping and issues, but speaks favourably of the effect of veratrine ointment against the painful sensations in the back and extremities. MM. Charcot and Vulpian give an analysis of the memoir of Wunderlich, which served as the *point de depart* of their researches. It appears that the success which attended the use of nitrate of silver in another form of disease, suggested to Wunderlich the idea of trying it in progressive spinal paralysis (ataxie locomotrice progressive).

A woman had been subject for four years, at the menstrual periods, and frequently also in the intervals, to hysterical convulsions; when the attack was very severe it was followed by general paralysis, for which

many remedies had been employed, but which yielded rapidly to nitrate of silver. This was communicated to Professor Wunderlich, who, doubting the accuracy of the assertion, determined to put it to the test.

After several convulsive attacks, which were not severe, and which were not followed by paralysis, one of extreme severity and long duration supervened, leaving after it paralysis of sensibility and of motion in the lower extremities. At first there was a very slight and spontaneous amelioration, and the patient could walk on crutches; but another seizure took place, and the paralysis was complete. M. Wunderlich at first prescribed pills of an inert nature, allowing her to believe that she was taking nitrate of silver, but there was little change in the symptoms. He then administered nitrate of silver without informing her of the change.

The following day there was a diminution of the paralytic symptoms, and at the end of three days they had completely disappeared. In subsequent attacks the paralysis rapidly yielded to small doses of the nitrate of silver. Wunderlich gives the results of his experience of nitrate of silver in five cases of progressive spinal paralysis, in which he employed it, induced to do so by the effects observed in the hysterical case. In one case the recovery was perfect; in the other four the improvement was remarkable. 1st Case.—A man, 32 years of age. Disease came on slowly after a chill; he was able to walk with the aid of crutches; improvement by nitrate of silver; and subsequently reappearance of the symptoms.

2nd Case.—A man, 49 years of age. Disease appeared after the suppression of profuse perspirations of the feet; rapid progress of paralysis. For one year the gait was staggering; 24 grains of nitrate of silver were taken; the amelioration was remarkable; and then the disease remained stationary.

3rd Case.—A vigorous man of 27. Cause of disease same as last; progress slow; difficulty in walking for two years; notable amendment after nine grains of the nitrate of silver.

4th Case.—A man, aged 55. The disease made its approach suddenly, after the patient had been exposed to cold and fatigue; sensibility of lower extremities obtuse; the patient was only three months ill; he could move his legs when he was in bed, but he could not support himself in the upright posture. On the 22nd of May, he commenced to take $\frac{1}{6}$ of a grain of nitrate of silver three times a day; and on the 31st there was an improvement in the sensibility and in the power of moving the legs. On the 4th of June, he was directed to take five pills each day; on the 9th of June, there was a voluntary evacuation, for the first time, and the patient commenced to stand, with assistance, and to walk a few paces with difficulty; on the 24th, improvement in power of progression; 29th.—The patient walked some steps without any assistance,

(since the 15th six pills daily). It was observed that he was increasing in weight. July 10th.—He staggered when he shut his eyes; 17th.—He walked up stairs, although with much difficulty; his gait is firm when his eyes are open. From this period his progress was uninterrupted, and the use of the medicine was discontinued when he had taken 48 grains. He left hospital on the 28th of August in a satisfactory condition.

5th Case.—A man, 35 years of age. Disease of six months standing; notable improvement by the nitrate of silver; still under treatment.

M. M. Charcot and Vulpian observe, that doubt may be entertained of the reality of the influence of the nitrate of silver, from the fact, that the morbid phenomena sometimes disappear, either spontaneously, or while the patient is being treated by divers means, amongst others cold effusions or certain mineral waters.

This objection has not been overlooked by M. Wunderlich, but spontaneous cure is so exceedingly rare an event, that it is scarcely possible to admit, that in the five examples of the disease there should be presented a series of rare and exceptional cases.

In forming a judgment as to the real value of a new medication, and the reliance to be placed on it, a comparison should be instituted with the modes of treatment hitherto in use. The impotence of many remedial agents has been proved in ataxie, of the preparations of strychnine, brucine, iodide of potassium, mercury, electricity, issues, hydropathy, mineral waters, &c., &c. Some have had an injurious effect—such has been noticed with respect to the application of caustics to the dorso-lumbar region, and even to Faradization.

The observations of Wunderlich refer to cases of comparatively recent standing; all his cases could walk, although with difficulty, with one exception, and in this instance, though the upright posture was impossible, the patient could move the lower extremities when he was in bed. This was the only instance of complete cure, and it is worthy of remark, that though the disturbance of motility was profound, the origin of the disease did not date back more than three months.

The patients treated by MM. Charcot and Vulpian with nitrate of silver, were in a very different condition, the disease having existed many years, and the patients having been sent to the Salpêtrière as incurable, after having been treated in several hospitals. Wunderlich, after having proved the good effects of nitrate of silver in recent cases, expresses an opinion as to the hopeless nature of the malady in its inveterate form. The experience of Charcot and Vulpian renders it probable that this view is too absolute, and they endeavour to explain how an improvement may take place, in cases such as they have encountered. In their dissection of two cases, they examined microscopically the spinal marrow, and they found lesion of the posterior columns and the posterior roots. In cases of ataxie, the grey substance is generally intact, the nerve tubes

of the posterior columns, and the roots, are alone the seat of alteration, which frequently consists in a disappearance of the medullary matter, the sheath of the tubes remaining unaffected. One can conceive that such an alteration is capable of undergoing a process of repair, and gradual restoration of the normal function. In all cases treated by Charcot and Vulpian, the nitrate of silver was given in small doses: for some time two pills, each containing a centigramme of nitrate of silver, were administered daily; at the end of a variable period three were given. In no instance, save one, was this dose exceeded, and in this, four were the daily allowance. Nitrate of silver may be exhibited in small doses, for a lengthened period, without danger of the skin assuming a dark hue. In one of Wunderlich's cases, 48 grains were taken. It has been employed already in gastritis, gastralgia, chorea, syphilis, and epilepsy, but it is only in the latter disease that the blackish tint of the skin has been observed, and only when its use has been continued for a long time, and that the dose has been large. Perhaps the treatment might be persisted in for a long time, if it were suspended occasionally and again resumed; but in such a disease as ataxie locomotrice, relief may be sought even at the price of a slight modification of the normal tint of the skin. MM. Charcot and Vulpian have tested the power of nitrate of silver in five cases of ataxie locomotrice, and in one of paraplegia, in which the symptoms of ataxie were absent. The first was a woman of 52 years of age, who entered the Salpêtrière on the 10th of September, 1855. The disease was of 15 years' standing, and at the time of commencing the nitrate of silver treatment, seven years had elapsed since she had been received into the hospice as incurable. On the 11th of April, 1862, her condition was grievous as possible, nearly deprived of sight, incapable of even sitting up in bed, and scarcely able to help herself with her hands, beset with acute pains, pale, emaciated, and almost dying. In ten days after commencing the nitrate of silver there was a manifest amelioration, and, at the end of 20 days, it was so considerable, that she was better than she had been for a year previously. The amendment progressed; the power of movement increased in force and precision, and the sensations became more acute; the characteristic pains had long since disappeared; the sight was so improved that she could distinguish persons around her; in short, the improvement in all respects was greater than could have been hoped for.

The history of the second case is analogous to the preceding, the same concatenation of symptoms, in a word, ataxie locomotrice in its full development. The result of treatment was equally satisfactory.

The patient, who was the subject of the third observation, was 57, and had laboured under ataxie locomotrice for two years, and was 18 months in the Salpêtrière when she was placed on the nitrate of silver treatment; she could not stand, and for some time symptoms were

present, which, to all appearance, indicated active irritation in the spinal marrow. On the 19th of April she was placed under treatment, and in about six days there was an appreciable improvement. On the 29th of April she could walk some paces with the assistance of one person. At the end of a month she could stand upright, and walk a little on crutches.

The next case was a woman, aged 56, who had long been a servant in one of the wards of the Salpêtrière; the ward was extremely damp. For two or three years before the paralysis appeared, she had suffered from severe pains all over the body, but more especially in the lower extremities. Towards the end of 1857, paralysis of the lower extremities commenced to show itself, she was suddenly attacked with numbness of the left leg, which increased gradually, and at the end of a year there was perfect paralysis. At the age of 53 cessation of the catamenia. Since that event violent pains in the left leg, accompanied by involuntary movements, and a sensation as if a bar were round the abdomen, with incessant vomiting. In 1861 the right leg began to be affected; the upper extremities continued in a perfectly normal state, and the sight was never affected. The lower limbs were atrophied. When placed upright, one or other leg oscillated involuntarily, and when an attempt at walking was made (the patient being supported under each arm), the limbs were projected without measure, and they frequently came in collision with each other, or with those of the persons at each side. Tactile sensibility was obtuse; cutaneous Faradization only produced a slight burning sensation. On the 25th April treatment commenced, two pills (one centigramme of nitrate of silver in each) were given daily. On the 2nd of May—three pills daily—there was some improvement, and on the 14th the patient could stand for some moments without support, and she could raise and lower the limbs slowly. 30th May, improvement in all respects, particularly as regards motility and sensibility. In about half an hour after taking each pill, she felt a *frémissement* all over the body, but chiefly in the lower extremities.

The fifth case is one of *ataxie locomotrice*—the origin of which dates so far back as 15 years at least—the subject a woman, aged 46, admitted into the Salpêtrière as incurable, on the 13th of July, 1858. Seven years previously she had derived benefit from Faradization, but on the interruption of the treatment the weakness of the limbs returned, and the disease progressed. She was again received into hospital, when she was treated by caustics, which appeared to produce a considerable aggravation of the disease. Again electricity was resorted to, with a like beneficial result, which, however, was not lasting, the affection soon after resuming its former character, and becoming progressive. As in the last case, the *ataxie* was confined to the lower extremities, but at the period the patient was placed under treatment she was affected with a tingling sensation in her fingers. *Diplopia*, also, to some extent, existed. On the 29th of

April the nitrate of silver was administered for the first time (two pills daily), at the end of 10 days she was sensibly better. On the 5th of June the patient, who, from her admission into the Salpêtrière, could only drag herself, so to speak, round her bed, holding on by it firmly, could now stand for some time near her bed, without any support, and she could walk, holding two persons by the hands, or pushing a chair before her—there was no longer any ataxie of movement. The general health was remarkably improved. MM. Charcot and Vulpian next make some observations on these five cases, which are still under their observation. It must be remembered that the ataxie locomotrice progressive was well marked in all; that at the “debut” of the treatment the disease had attained that period when it is generally looked on as incurable; that in all, during the course of the medication, a very notable amelioration in the greater part of the symptoms was observed—this occurred from four to ten days after commencing the nitrate of silver; the tactile sensibility was improved; the sensation of position attained precision; the sensibility to temperature, so habitually perverted, recovered, to a certain extent, its normal conditions. Vision, in one case, participated in the favourable modifications induced by the treatment. The pains entirely ceased, and this was one of the results which most promptly manifested itself. The movements acquired force and precision, thus patients confined to bed for years, and unable to sit up or change their position, could retain the vertical position without support, or even walk some steps with the aid of the attendants—one of them was able to walk for a quarter of an hour on crutches, another merely by assisting herself with a chair. In every instance the ataxic movements, at first very prononcée, have ceased to manifest themselves, or are scarcely appreciable. With respect to the state of the tactile sensibility in ataxie, it was noticed that it had, in the 10 cases in the Salpêtrière, suffered a considerable amount of enfeeblement. When the finger is placed gently on the skin of the part affected, if the patient is blind, in general there is not the slightest perception of contact, and it was the same with the others when the eyes were closed, or when a part of the body which could not be seen was touched, as for example, the skin of the lumbar region. In the opinion of the authors, this diminution of tactile sensibility is a constant morbid phenomenon in advanced ataxie, and it should not be assumed that the sensibility is intact, unless this mode of exploration is practised. Again, returning to the state of the patients after treatment, the general health was improved, constipation had yielded, the appetite had increased, they had gained flesh, and the cachectic aspect, which they presented in a high degree, had been very much modified.

It is interesting to refer to the tingling experienced in the limbs, generally in about an hour after taking the pill, and which ceased, on an average, in from two to three hours. In one case the startings in the

lower extremities resembled the action of strychnine on paralyzed limbs in cases of cerebral or spinal paralysis. These effects ceased, in general, after the patients had been 10 days under treatment, and reappeared for some days when the dose of nitrate of silver was augmented.

In addition to these phenomena eruptions (lichnoid and pruriginous) accompanied by violent itching, showed themselves all over the body, but principally on the limbs, soon after the commencement of the treatment, and were actually still persistent when the communication was published. In one patient a sensation of heat in the epigastrium, more or less painful, was experienced some moments after the ingestion of the nitrate of silver, but soon tolerance was established, and the pains did not recur, except at the times when the dose was increased.

Touching the mode of administration of the nitrate of silver, and the probable changes it undergoes. It was given in the form of pill by means of crumb of bread or liquorice, marsh mallow, or syrup, but a great part of the salt is modified. In point of fact, the researches of M. Cloez prove that in the recently prepared pills four-fifths of the salt of silver are decomposed, and pass into an insoluble state under the form of oxide of silver and metallic silver, and salts probably insoluble in organic acid: as to the part which remains soluble, it is not quite certain that it continues in the state of nitrate. Even though the salt may undergo a decomposition almost complete in the pills, it is a matter of secondary importance, as the silver is absorbed, and enters the torrent of the circulation. This is settled, as M. Cloez has demonstrated its presence in the urine, and has even collected the silver in the form of little metallic grains.

The authors of this important and valuable communication have the five patients still under treatment, and they, in conclusion, ask, what is the future which is reserved for them? are they to suffer a relapse, and lose that which they have gained; or, on the other hand, is the amelioration to be maintained, or even to still make progress?

For a response we must wait patiently, fully agreeing in the propriety of publishing the results, incomplete though they are, inasmuch as they are worthy of the attention of the physician, and of multiplied observations. It is no small benefit which conferred upon the patient, confined to bed for years, the power of rising and of sitting in an arm chair, and even of walking a few paces, which relieved all from pains sometimes intolerable, and restored the appetite and strength, and finally awakened hope. If, in the inveterate examples of *ataxie locomotrice*, we can scarcely expect an amelioration more or less marked, or more or less durable, it may be permitted to hope—one of the facts reported by Wunderlich justifies the hope—that in cases less grave and not so far advanced, we may arrest the disease in its progress, or procure an amendment almost equivalent to a cure.

MM. Charcot and Vulpian conclude their paper by detailing a case of complete paraplegia, unconnected with ataxie, in which the nitrate of silver acted most beneficially.

In the selection of cases for trial much importance is attached to classification, as it has been observed that marked aggravation of symptoms has been caused in paralysis of the lower extremities connected with myelitis.

The indiscriminate employment of nitrate of silver in all cases in which locomotion is more or less seriously implicated, is calculated to lead to erroneous conclusions.

WASTING PALSY—PARALYSIS OF BELL AND CRUVEILHIER.

The confusion arising from the various names assigned to this form of paralysis is very great. Dr. Roberts, in his excellent monograph,^a adopts the term wasting palsy, as short and convenient, and expressing its most remarkable feature; at the same time suggesting that it should be called by the name of Cruveilhier; but it would appear that that of Sir Chas. Bell should, in justice, be added. As in the previous cases, the attempts to name the disease by its clinical or pathological characters, have been quite unsuccessful, the features that were used for the purpose having been proved by increased experience not to be constantly present. Thus Aran calls it "atrophie musculaire progressive," and Duchenne "atrophie musculaire avec transformation graisseuse," and Sandahl combines both characters in his name, calling it "atrophia muscularis paralysans, adiposa, progressiva," a name rather inconvenient for common use, in addition to its being inappropriate, from its being now well established that, though the muscles generally undergo fatty degeneration, there are cases in which there is no transformation into fat, and that the atrophy is not necessarily progressive.

In this Journal, and in the *Dublin Hospital Gazette*, cases presenting some points of importance have been published by Dr. Reade and Dr. Banks, proving, amongst other things, that the disease is not always progressive. Dr. Reade's^b was that of a young man, 19 years of age, who had been suffering from the disease for 18 months. When he stripped his body to the waist, he exhibited neck, chest, and arms, to the elbow-joints, reduced to a most abject degree of emaciation, such as is seen pervading the whole frame of those who have undergone protracted wasting disease. The emaciation—the decadence of muscular fibre together with the tegumentary covering—was perfectly symmetrical, muscle for muscle, on each side of the median line, both on the anterior and posterior aspect of the trunk; the greater and lesser pectoral muscles

^a Reviewed in Vol. xxvi., p. 101.

^b Dublin Quarterly Journal, Vol. xxii., p. 393.

were little more dense than the strongest brown wrapping paper; the muscles of the neck, anterior and posterior, proportionately attenuated; the muscles on the scapulae, particularly the supra and infra spinal muscles, were so much diminished as to show the spine of the bone, with distinctness only less than the dry bone; all prominences from the deltoids were gone, and the muscles of the humeri were reduced to the cellular membrane, the mere elementary outline of the muscles, the biceps and triceps especially; from the elbows, the muscles of the fore-arms and hands displayed the full development of a robust and vigorous man of his stature, with all the concomitant power, sensibility, and aptitude for use. All the muscles outside the pelvis, and those of the inferior extremities, were full, strong, and well-formed.

His history was this:—Within the period of eighteen months he was in all respects, as regards the muscles of his neck, trunk, and arms, in due proportion with the forearms and lower limbs, and he was distinguished among his companions in all athletic exercises. The first sign of his approaching malady, which he perceived, was a degree of stiffness or difficulty of executing the motion of putting on or removing his hat from his head. He never suffered pain, and has enjoyed uninterrupted health, his digestive functions being performed with perfect regularity.

Dr. Reade treated him by counter-irritation over the cervical vertebræ, put a seton into the back of his neck, and gave him mercury in small but long-continued doses, keeping him under its sensible action for three months. He subsequently made him use dumb-bells, to excite nutrition by the stimulus of gymnastic exercises, and used electro-magnetism for several weeks. Under this treatment he recovered flesh and substance on the scapulae, and especially the spinati muscles, but afterwards thought his strength diminished; and after about two years the treatment was discontinued. At the expiration of six years Dr. Reade again saw him, and gives the following account of him:—"The change in his appearance is most decided, and altogether on the side of improvement. The first marked amendment which strikes the eye is the fair amount of adipose substance which has been restored over the whole of the emaciated surface of the chest, back, neck, and arms; he might be said to be in good condition; formerly, the ribs were all prominent, and the conical form of the chest was as apparent as in the skeleton, from the disappearance of the pectoral muscles and the excessive thinness of the tegumentary covering; over the back of the humerus the integuments fell in a loose fold; the muscles of the neck have all been fully restored; the muscles of the scapulae considerably augmented; the deltoids in a small degree, but the fibre feels tense and very firm; the triceps and biceps are little better than membrane, but possess true muscular action, perfectly obedient to the will. The muscles of the forearms have lost much of the bulk they had six years ago; the hand has become attenuated; this may

be accounted for by his occupation, viz., a sedentary and mental pursuit for six years. He reports himself as possessing at present, and during the whole progress of this extraordinary disease, the most uninterrupted good health, his digestive functions being performed with invariable regularity; and never, from its commencement up to the present time, had he the least pain pending the degeneration of the muscles. . . . His present exercise is pulling an oar in a boat on the sea. It is here established that the symmetrical atrophy may undergo arrest, may even renew the vital action of nutrition to the renovation of the decayed muscle."

Of Dr. Banks' cases,^a one had been the subject of the disease for five years: it began in the right arm with pains, thought to be rheumatic, after exposure to damp and cold and much continuous work at shoe-making. The fingers first became weak, then the wrists, accompanied with cramps and convulsive twitchings of the muscles; the disease extended to the forearm, and, after some months, the left hand became affected in precisely the same manner, the thumb being the first part implicated, and then the muscles of the forearm, with loss of substance. The muscles of the back of the neck and of the shoulders were subsequently implicated, those of the lower extremities were unaffected; the man was active and a good walker. The affected joints were generally very cold, livid, and moist; but there was at times a marked elevation of temperature, their sensitiveness to impressions of cold was very remarkable; and as the disease was commencing the muscles were always more feeble in a cold than in a warm atmosphere. The function of sensation was unimpaired. During a residence of three months in the hospital, he was subjected to electro-magnetism, and a tonic treatment was at the same time employed. Some improvement appeared, particularly in the flexors, which became slightly increased in bulk, and the disease, which had progressed for two years, was arrested, no new set of muscles becoming affected.

The second case recorded by Dr. Banks is that of a gentleman, 64 years of age, in whom the disease set in after a fall received 24 years ago, in hunting, when he was slightly stunned, but soon recovered. The left leg was first affected, then the right wrist, and next the left, but not so completely as the right. The disease progressed for about one year, when its onward course was stayed. The general health was good, and the intelligence far above that of ordinary persons.

The pathology of the paralysis of Bell and Cruveilhier is the subject of much discussion. Cruveilhier attributed the disease to atrophy of the anterior roots of the spinal nerves, but subsequent researches have not confirmed this view. Many pathologists regard it as a true acinesia, or disease of the muscles themselves, and Dr. Roberts has examined into the evidence, and pronounced a verdict in favour of this view of its

^a Dublin Hospital Gazette, Vol. vii., p. 225.

nature. He collected the particulars of all the cases that had been recorded at the time of his writing (1858), and analyzed them.

The alterations found in the nervous system were by no means constant. The brain and medulla oblongata were free from disease in every case examined. In 9 out of 13 autopsies the spinal cord was sound, in some, even the microscope failing to reveal anything abnormal. Of the 4 in which morbid states were discovered, there was more or less extensive softening in 3; and in the fourth (Virchow's) there was amyloid degeneration. Great importance attaches to the condition of the anterior spinal roots, in consequence of Cruveilhier's observations. In his two cases he found them atrophied. Schneevogt and Valentiner found them in the same state in one case each, along with softening of the cord; and Dr. Roberts quotes from Dr. Reade's very excellent description, published in this Journal for November, 1856, of the case that occurred in his practice, an allusion to a case that was examined in the Belfast workhouse, as the only further confirmation of Cruveilhier's observation. On the other hand, it appears that in five cases in which this alteration was specially looked for, it did not appear. These are detailed by Dr. Meryon, in the *Medico-Chirurgical Transactions*; by Landry, in the *Gazette Médicale*; by Oppenheimer, in the same; by Virchow, in *Virchow's Archiv*; and by Laboulbène, in *L'Union Médicale*. The existence of these five cases we believe, with Dr. Roberts, to be a fact of capital importance in the discussion of the pathology of wasting palsy.

In 6 cases the peripheral nerves were examined; in 3 the motor nerves were more or less atrophied, probably a secondary change. In 2 no change was found. In 2 the sympathetic in the neck was examined; in one, Landry could discover nothing abnormal; in the other, Schneevogt found that part of the cord in the neck, the lower cervical and some of the thoracic ganglia, had undergone fatty degeneration, a condition that had been diagnosticated during life from the contraction of the pupil.

"To the muscles themselves, therefore," Dr. Roberts says, "we must look for the primordial phenomena of wasting palsy. This opinion is held by Duchenne, Aran, Oppenheimer, Wachsmuth, and Dr. Meryon. Of the nature of the blight that withers the muscles, he is only able to say, with Dr. Meryon, that it is a fatty and granular degeneration of the muscular fibre, similar (often at least) in its anatomical bearings to what is observed in fatty heart, or in muscles which have degenerated from section of their nerves. There would seem to be an error of nutrition in the muscular fibre, not dependent, as Dr. Meryon thought, on a general depression of the nutritive functions—these being almost always in their highest perfection—but brought about under the influence of a peculiar constitutional predisposition or diathesis, by the aid of one or more of the special exciting causes.

"That the entirety of the disease is not comprehended in its local

manifestations, and that a constitutional predisposition lies behind these, is made evident by the transmissibility of the disease from parent to offspring; and also by the total inadequacy of the exciting causes, acting alone, to produce the series of events which characterize wasting palsy. An additional proof is seen in the bilateral symmetry of its march. This symmetry, although by no means constant, or always exact, is quite as remarkable as anything presented by pulmonary tubercle, articular rheumatism, or syphilitic or other eruptions of the skin."

But new evidence has recently appeared, making it necessary that judgment should be suspended. Mr. J. Lockhart Clarke, who is so distinguished for his investigations into the minute structure of the spinal cord,^a and who has discovered new methods of making microscopic sections of it, has found in two cases disease of the ganglionic corpuscles in this centre, that may prove to be the cause of the muscular atrophy, but may possibly be no more than a consequence or an accidental associate of it. His first case was a well-marked one of the disease, in a man, aged 65, who had suffered from it for five years. At the autopsy no important morbid change was apparent, except some undue subarachnoid effusion and some granular alteration of the wasted muscles; but on microscopic examination, Mr. Clarke detected, in the posterior grey substance of the cord, some unnaturally transparent streaks, patches, or spots occupied by a granular substance. These spots appeared to be most numerous about the middle of the cervical enlargement, and diminished upwards and downwards. In one of them a vacant space was found, with broken ends of nerve fibres projecting into opposite sides of the space. Around the central canal of the cord and the medulla oblongata, and in the anterior and posterior spinal commissures there was a considerable deposit of *corpora amylacea*. The floor of the fourth ventricle was covered with minute granular elevations, consisting of aggregations of the ordinary epithelial cells.^b

In another case, in which the disease began in the left hand, and extended gradually, till it affected all parts of the body except the face, Mr. Clarke found very similar appearances. In this case the whole cord was atrophied—there was no brachial enlargement whatever. The nerve-cells were found to be in a singular state of atrophy, without nuclei or distinct granular contents. The central canal was about its normal size; but the epithelium around it was increased or hypertrophied. There were no *corpora amylacea* found, but the connective tissue throughout the cord, and particularly between the white fibres, was unnaturally abundant; and the increase of it, with the atrophy of the white fibres,

^a For abstracts of Lockhart Clarke's papers see Vol. xxix., p. 117, and Vol. xxx., p. 454.

^b Arch. of Med., Oct., 1861.

caused considerable displacement of the parts of the cord. There was no examination made of the paralyzed muscles.^a

Dr. Gull, of Guy's Hospital, has recorded a case which is remarkable for the slight degree of the affection, and the great amount of morbid condition found in the cord. The patient, aged 44, was a journeyman tailor, of sober habits, and always healthy and strong, and had never met with any injury. He was admitted into Guy's Hospital on the 5th of February, 1862. Thirteen months before this the fourth and ring fingers of the right hand became weak and flexed, without any assignable cause. The hand was cold, and there was a feeling of numbness in the fingers, but no pain, and he continued working at his trade. Two months before admission the middle finger of the same hand became suddenly affected, and three weeks before admission the three inner fingers of the left hand became weak and flexed, but without numbness. The arms were not affected. The interosseous muscles, and those of the thenar and hypothenar eminences, almost completely disappeared, especially in the right hand. The patient died from typhus fever on the 8th of March. On examination a large cavity was found in the cervical region of the cord, beginning at the fifth nerve, enlarging from that to the seventh, and then tapering downwards, and containing fluid. A chronic cervical *hydromyelus*, comparable to a chronic *hydrocephalus*. What the nature of the change in the cord was, Dr. Gull says, may be a matter for speculation. So far as it affected the grey matter it seemed to be no more than atrophy, from distention of the ventricle of the cord, by an accumulation of fluid in it.^b

It is difficult to believe that the condition of the cord in this case was anything more than a coincidence; but on reviewing the whole subject, we must, for the present, say with Dr. Gull, that the disease may arise from primary disease of the muscular elements—or from lesion of the trunks or branches of the nerves—or from morbid changes in the grey matter of the cord, and that it is the difficulty of distinguishing the primary seat of the disease in each of these classes of cases, which has led to exclusive, and therefore erroneous, views of their pathology.

(To be continued.)

^a Brit. and For. Med. Chir. Review, July, 1862, p. 215.

^b Guy's Hospital Reports, Vol. viii., 1862, p. 244.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.^a

TWENTY-FOURTH ANNUAL SESSION—1861-62.

Old Gunshot Injury of the Tibia; recent Fracture of the Femur.—Mr. TUFNELL exhibited to the Society the tibia of an old man, aged 78, who, 52 years before, at the battle of Busaco, had been wounded by a musket-ball. The bullet had lodged in the cancellated structure of the head of the bone, and been removed from thence by means of a trephine. The cavity formed by the ball had never filled up, but remained an open discharging wound, lined by a pyogenic membrane, and daily secreting a quantity of fetid pus. The integuments were adherent around the edge of this opening. No treatment had been adopted beyond keeping the part clean, and placing over the opening into the bone a piece of linen smeared with grease.

The presence of this cavity in the head of the bone had not caused much annoyance, and for five-and-forty years he laboured regularly as a bricklayer's assistant.

About six years since, finding himself to be getting infirm, he became an in-pensioner of Kilmainham Hospital, where he remained until the period of his death, which arose in the following manner:—Like most old soldiers he was given to drinking, and took his liquor freely, but not to prejudicial effects, until two days before his decease, when he got very drunk, and fell helplessly whilst crossing his room, fracturing the left femur through the trochanters by the direct violence of the blow.

When brought to the infirmary the limb was shortened, but not to any great degree. The foot everted; and before the groin a considerable projection formed. He complained of no pain, but was incoherent, and this, in all probability, resulting from intoxication more than shock. He had been suffering for some days from diarrhea. Stimulants and support were given, but he never rallied, and died in 40 hours from the receipt of the injury.

Upon examination of the parts in the vicinity of the fracture, they, and indeed the whole thigh, on its front and outer aspect, were found gorged with black blood, every tissue being infiltrated with it. The fracture of the femur extended obliquely through both trochanters, the upper portion of the lower fragments being in front of and lying upon the upper fragment.

With reference to the cavity in the head of the tibia, it differed greatly from that observed in a somewhat similar case by the late Sir George Ballingall, of Edinburgh, and reported in his *Military Surgery Museum*,

^a These reports are furnished by Dr. R. W. Smith, Secretary to the Society.

in this respect, viz., that the enlargement of the head of the bone was, in his case, excessive, whilst here its size was in no way affected.

In Sir George Ballingall's case the individual had lived to a very advanced period of life, labouring, too, for his bread, but working as a boatman; and, finding inconvenience from the oozing of pus, he had plugged the orifice with a wine bottle cork. Nature, to resent this irritation, had thrown out new bone, whilst absorption, by the pressure of the foreign body, had, at the same time, been going on from within, necessitating the enlargement of the plug, until, at the period of his death, it required a piece of deal as large as a bung, wrapped round with old linen, to stop the vent.

Each day the old veteran used to take out the stopper, and holding his leg over the side of the boat, wash out the cavity well with sea water, and then close it for 24 hours, when the process was repeated.

Mr. Tufnell was indebted to his friend Dr. William Carte, physician and surgeon to Kilmainham Hospital, for the opportunity of exhibiting this case.—*January 25, 1862.*

Concentric Hypertrophy of the Left Ventricle of the Heart.—PROFESSOR LAW exhibited a specimen of concentric hypertrophy of the left ventricle of the heart. He remarked that although the interest of the specimen was somewhat lessened by there being no history of the case during life (for it was found in a subject in the dissecting room, and in which also there was gangrene of the foot dependent upon embolic obstruction of the femoral artery), still he felt that the rarity of the specimen entitled it to the notice of the society. Professor Law observed that he felt a particular interest in this pathological condition, as he believed he was the first to explain the conditions and circumstances under which, he maintained, concentric hypertrophy of the left ventricle of the heart alone occurred, viz., *when there existed, at the same time, both disease of the mitral valve, producing contraction of the mitral orifice, and disease of the aortic valves.* These conditions were all present in the specimen exhibited; the mitral orifice was greatly contracted, so as hardly to allow the little finger to pass through; and the aortic valves were all so indurated and thickened, from interstitial deposit, that they both offered an obstruction to the passage of the blood from the ventricle, and also allowed that which had passed out to regurgitate into it. With this double valvular lesion Professor Law connected the contracted cavity and the thickened walls of the ventricle. He contrasted the condition of eccentric hypertrophy, the ordinary result of aortic valve disease, with that which he exhibited, affirming that the increased capacity of the ventricle in the one case, and its diminished capacity in the other, illustrated a law in the circulation—that the size of a vessel, whether a cavity of the heart or a blood vessel, is permanently affected by the quantity of blood which habitually passes

through it. He had already directed attention to the diminution of its size that the aorta undergoes in cases of contracted mitral orifice, in consequence of the small stream of blood which passes from the auricle into the ventricle, and from thence into the artery; the thickened state of the valves of the ventricle was produced by the efforts to overcome the hindrance presented to the exit of the blood, by the valves of the aorta being so altered as not to apply themselves so closely to the sides of the vessel, as to leave a free passage to this fluid, as wide as for its regurgitation into the ventricle. Both these causes contributed to produce this effect which was, in fact, a conservation process of nature, and which should be treated as such, as long as it confined itself within certain limits.

Professor Law remarked that before cardiac pathology was as well understood as it now was, when observations were less exact, concentric hypertrophy of the left ventricle of the heart was supposed to be a very common phenomenon; for *post mortem* examination had often discovered the cavity of the ventricle greatly contracted and its walls apparently much thickened. M. Cruveilhier, however, showed that the contracted cavity with the thickened walls was a mere transient contraction of the ventricle, which death had surprised in the energy of its contraction. This was especially observable in persons who had died a violent death, as by the guillotine or hemorrhage of any kind. And that this was a mere transient condition was farther proved by the fact, that the hand could dilate the contracted cavity and reduce the size of the apparently hypertrophied walls, which, of course, would not be the case if the condition were permanent. M. Cruveilhier denied the existence of concentric hypertrophy altogether, and most pathologists embraced his view. Dr. Watson remarks, "concentric hypertrophy never occurs, I believe, except as a congenital malformation." He seems to have adopted the views propounded by Dr. Budd on this subject, in the 23rd Vol. of the *Medico-Chirurgical Transactions*, when he limits the existence of *real* concentric hypertrophy to congenital malformation, and, according to his experience, most commonly in the right ventricle. Professor Law declared his experience to be at variance with that of Dr. Budd, for, that in all cases of congenital malformation connected with hypertrophy of the right ventricle that he had met with, it was always eccentric and not concentric hypertrophy. Nor did he believe that concentric hypertrophy of the right ventricle could occur, except under the same conditions on the right side of the heart that he thought were alone competent to produce it in the left ventricle, viz., a contracted auriculo-ventricular opening, and an obstructed arterial orifice. Professor Law felt he need hardly remark on the little likelihood of such a condition of parts being found in the right side of the heart; for although the auriculo-ventricular opening on this side might be contracted, which was comparatively rare,

still the other element of the complication which he deemed essential to the production of this form of hypertrophy, viz., a pathological condition of the valves of the pulmonary artery, analogous to that of the aortic valves, at the same time hindering the exit of the blood from the ventricle and admitting of its regurgitation, he believed to be so rare, that he questioned if the records of pathology furnished an undoubted instance where the complication was found to exist. The almost complete immunity of the valves of the pulmonary artery from disease, rendered its existence highly improbable. Professor Law observed, that it might be objected, that although the valve of the pulmonary artery might be free from disease, an obstruction to the circulation might exist in the lungs which might be expected equally to operate in producing hypertrophy of the right ventricle. He maintained that obstruction to the circulation through the lungs had not generally the effect of producing hypertrophy of the valves of the right ventricle; although the contrary had been asserted by systematic writers on cardiac pathology, who based their assertion more on what they thought ought to be than on what they had actually seen; conceiving, that as an obstruction in the course of the systemic circulation eventuated in hypertrophy of the left ventricle, so an obstruction in the course of the pulmonary circulation ought equally to eventuate in hypertrophy of the right ventricle. Professor Law denied the existence of an exact analogy between the two sides of the heart, under what were considered to be similar conditions, and attributed the difference of result to the difference of the blood on the two sides, that on the left stimulating the organ, while that on the right, being venous, wanted this stimulating property. Professor Law grounded his view on the fact, that always when a direct communication existed between the left and right sides of the heart, either through an imperfect septum ventriculorum or an open foramen ovale, hypertrophy of the right ventricle was found. This effect he attributed to the *error loci*, as it were, of the arterial blood, producing this *unusual* effect. Professor Law concluded his observations by remarking that there was such a pathological condition of the heart as concentric hypertrophy of the left ventricle—and this not a congenital malformation, but most commonly the result of a complication, consisting in a narrowing of the left auriculo-ventricular opening, and of such disease of the aortic valves as compromised their function. He added further, that he had never seen, nor could he believe, in the existence of concentric hypertrophy of the right ventricle under any other conditions than those under the influence of which hypertrophy of the left ventricle developed itself, which conditions, he believed, were seldom, *if ever*, found at the right side of the heart.—*February 1st, 1862.*

Tumour of the Dura Mater.—DR. BANKS presented a brain which had

been taken from a woman, aged 65 years, who had recently died in the Richmond Lunatic Asylum, where she had been an inmate for 22 years.

The cause of the woman's death was general dropsy; and in the course of her illness, which was protracted, there was no symptom referable to the cerebro-spinal system. She never, at any period, had an epileptic seizure nor any form of fit. The brain was remarkable for being extremely small. The dura mater was closely adherent to the cranium—a condition frequently observed in cases of chronic insanity. The adhesion in this case was so close as to render its removal a matter of much difficulty. From the inner surface of the dura mater, a tumour of the size of a filbert was found to have projected, and to have made for itself a bed in the fissure of the Sylvius. The tumour, which was fibro-cellular, had not contracted adhesions. The surface of the dura mater was studded with small bodies of the same structure.

Dr. Banks considered this case one of interest, and worthy of the notice of the Society, from the fact of its being one of very rare occurrence; in proof of which it may be noticed that Drs. Bucknill and Tuke, in their *Manual of Psychological Medicine*, state that they have only once found a true tumour of the dura mater. In their case the tumour pressed upon the pons, and the individual was epileptic.—*March 1st, 1862.*

Eviscion of the Thumb.—MR. TUFNELL exhibited the thumb of the left hand of a soldier of the Royal Scots' Greys, aged 28 years, with the tendons of the extensor and flexor muscles attached, the tendons having been dragged out until they separated at their muscular connexion. The accident occurred in the following manner:—A loose horse being in the barrack yard at Newbridge, the patient ran before him to prevent his passing out through the gate, standing with both hands and arms held out. The animal, as he darted by, made one snap at his hand, and, seizing the thumb in his teeth, amputated it in an oblique direction, through the metacarpal bone. Hardly a drop of blood escaped, and the line of incision was so regular, that nothing required to be done, but shorten the bone with nippers, and close in the edge of the wound by adhesive plaster. Cold lotions were laid over the arm, and the man rapidly recovered without the slightest ill consequence, beyond the loss of the member thus suddenly detached. The case occurred in the practice of Dr. Lockwood, surgeon of the Royal Scots' Greys.—*March 8, 1862.*

Poisoning by Morphia; Effects of Continuous Motion in Joints.—MR. TUFNELL exhibited the head of the left humerus and left shoulder joint of a man, who had committed suicide by taking a tablespoonful of the muriate of morphia, and who had been kept alive by artificial respiration (conducted according to Sylvester's method) for a period of 15 hours.

This plan, which consisted in elevating the arms above the head, and then bringing them down along the sides of the chest, had been perseveringly pursued for the time stated, with the aid of relays of assistants, and the movements had been made, as nearly as possible, at the rate of twenty times per minute. Both shoulder joints had been in continuous motion, therefore, to the extent of 18,000 times, and it was for the purpose of testing the condition of the synovial membrane, cartilage of incrustation, and surrounding ligamentous tissues and muscles, that Mr. Tufnell had removed the joint which he now laid before the Society; and for the opportunity of observing and obtaining which he was indebted to his friend Dr. Carey, surgeon of the 87th regiment, in whose corps the case occurred. It would be seen that the head of the humerus bore a deep blood-stained appearance, and the capsule of the joint was also vascular and tinged with colours. The synovial membrane was dry, and not the slightest amount of this secretion existed in the joint. Whether inflammation of the joints might have followed in this case, had the patient survived, Mr. Tufnell could not say; but, in instances of leakage in ships at sea, where the crew have had to work almost continuously at the pumps for as many hours as the limb was kept in motion here, no such result followed. The muscles surrounding the joint did not appear to have suffered in any way.—*March 8, 1862.*

Rupture of the Spleen.—Mr. TYRRELL presented to the Society a ruptured spleen which he had removed from the body of a sailor who died in Jervis-street Hospital. He was admitted on the Tuesday preceding, in consequence of a severe crush which he received from a heavy weight falling on him, while he was leaning over the bulwarks of his ship. The accident occurred at four o'clock P.M., and Mr. Tyrrell did not see him until ten, when he found him in a state of semi-collapse, cold and shivering, but conscious, and able to move himself in bed. Before he was admitted into hospital a catheter was introduced, and some blood drawn off. Mr. Tyrrell introduced a large-eyed full-sized catheter with the same result, but, after a little, some urine flowed, when the clots were removed from the eye of the instrument. He was ordered gallic acid in five grain doses, combined with half a grain of opium, in the form of pill; one to be taken every third hour. Heat to be applied to the extremities, and the catheter to be left in the bladder. On Wednesday the urine flowed copiously, and it was free from blood. He was altogether better; complained of but little pain, and that referred to the right side; but the abdomen was extensively ecchymosed, although, on admission, there was no appearance of bruise on any part of the body.

Thursday, his state was satisfactory; but on Friday morning he got suddenly very low, and died in the course of the day.

The autopsy was made on Saturday morning, and on cutting into the

abdomen extravasated blood was found on the right side, in the neighbourhood of the kidney, but there was very little blood effused on the left side, although the spleen was nearly torn across.

Mr. Tyrrell observed that the case was interesting, from the fact that there was very little hemorrhage, although the spleen was ruptured, nor was there any complaint made of pain in the left side. Had the man merely suffered from the lesion of the spleen he might have recovered. His death, no doubt, was due to the loss of blood from the ruptured right kidney. He likewise wished to draw attention to the fact, that there was no injury done to the bladder, and his reason was, because the surgeon who introduced the catheter before the patient's admission into hospital, on finding nothing but blood flow, concluded that the bladder was ruptured. However, as there was a well-defined tumour above the pubes, dull on percussion, Mr. Tyrrell was of opinion that the bladder was safe even before the flow of urine through the instrument confirmed his diagnosis.—*March 15, 1862.*

Cancer of the Jaw.—Dr. WHARTON exhibited a portion of the inferior maxilla of a man, aged 72, which he had recently removed, together with a portion of the integument of the chin, in consequence of canceroid disease, extending from the insertion of the masseter muscle on one side to a corresponding line on the opposite. On looking into the patient's mouth it was observed that the portion of the bone above referred to was more or less enveloped in a mass of disease, and that the floor of the mouth was similarly circumstanced, with this exception, that the gum was not ulcerated, but rather tuberculated. The tongue was displaced considerably backwards, in consequence of the destruction of the frenum by ulceration. A distinct ulcer, which occupied this situation, frequently bled, and the patient's breath was peculiarly fetid; articulation was very indistinct, similar to what occurs when a person attempts to speak while at the same time he holds his tongue with his finger and thumb. The operation was commenced by making an incision along the base of the jaw, according to the limits above specified. The integuments above the line of incision were dissected upwards, so as to expose the anterior surface of the maxilla, while those situate below were, at the extremities of the line of incision, dissected round the base and internal surface of the bone, so as to admit of the introduction of the blade of Butcher's saw into the cavity of the mouth. This having been effected, the blade was secured in the frame, and the bone sawn from within. The bone having been excised, the remaining attachments were severed, and the bone removed. The floor of the mouth was next denuded of all traces of disease, and a considerable portion of the integuments of the chin, commencing a few lines below the lower lip, and terminating at the extremities of the first incision, were removed.

Dr. Wharton also exhibited a specimen of epithelioma of the lip, which he had lately excised from a man in his 80th year.—*March 15, 1862.*

Ovarian Tumour; Ovariectomy.—DR. KIDD exhibited an ovarian cyst which he had removed from a patient in the Coombe Lying-in Hospital, on the 20th March. The woman from whom it was removed was aged 32, she had menstruated regularly, and enjoyed good health. She was married in June, 1857, and in August, 1858, gave birth to her first and only child. She nursed this child for 14 months, and weaned it in November, 1859; her health up till this period being good. She now began to experience pain during sexual intercourse, and soon perceived “a small hard lump” in her right side, but as it caused her no apparent inconvenience she did not trouble herself about it. Her general health continued tolerably good till the 14th August, 1861, when she was seized with excruciating pain after connexion, which continued, with constantly recurring paroxysms, for some days; it then ceased for about a week, and returned with violence. She referred the chief seat of pain to a position near the mesial line, a little above the pubis. About this time the “small hard lump” began to enlarge rapidly.

She was admitted into the Coombe Lying-in Hospital on the 10th of March. She suffered much, since the tumour began to enlarge, from sickness of stomach. This sickness had much the character of the morning sickness of pregnancy; there was no diarrhea with it, or other evidence of mucous irritation. The tumour was so large as to interfere with respiration, and to prevent her lying down comfortably. The abdomen was very tense; fluctuation very evident, except at the lower part, where there was some solid matter. It was evident that the walls of the abdomen and of the tumour were very thin to allow of the fluctuation being so easily felt. At the upper and left side a fold of omentum could be distinguished lying between the tumour and the abdominal wall, and by pressure and manipulation could be displaced. The surface of the abdomen was irregular, being most prominent at the right side; it was uniformly dull on percussion anteriorly, and clear in the lumbar regions. The uterus was low in the pelvis, and measured with the sound was found to be of the natural size.

The diagnosis formed was, that there was an ovarian tumour of the right side, with its contents chiefly fluid, with some solid matter at the base, and, from the history of the case, probably numerous adhesions.

On full consideration it was determined to remove the tumour, but it was felt that the case was not a favourable one, from the fact of the adhesions and the emaciated state of the patient. The circumstances were explained to herself and her friends, and on the 20th March, Dr. Kidd proceeded to perform the operation.

The usual preparations having been made, she was placed under the

influence of chloroform in the recumbent posture, and in a heated room; an incision five inches long was made, commencing below the umbilicus; as soon as the abdominal walls were divided the cyst, unable to sustain the pressure of the fluid, ruptured, and about three gallons of purulent matter escaped, necessitating the stopping of the operation till the cyst had emptied itself. It was now found that the tumour was universally adherent to the abdominal wall, all through the pelvis, in two places to intestine, and in one to the omentum. Where adherent to the intestine a portion was cut out of the wall of the cyst and left adhering; the other adhesions were broken down with the hand with much difficulty—those in the pelvis requiring extreme caution; the others more easily. The pedicle was secured with a clamp; then ligatured with indian hemp, and the clamp removed; the wound was closed with hare-lip pins and wire sutures, the stump being fastened in the wound; a flannel bandage and compress applied, and the patient placed in bed. There was considerable collapse, from which, under the influence of stimulants and opium she soon rallied and became cheerful.

Twelve hours after the operation she began to complain of pain in the abdomen. At the end of 15 hours the respiration began to be hurried; the abdomen began to swell and get tympanitic; hiccough and vomiting set in, and she died 23 hours after the operation, evidently from peritonitis, but, unfortunately, the friends would not permit an examination.

The tumour consisted of one large cyst with smaller ones growing from its internal surface; near the pedicle there was a mass of small cysts intermingled with tubercular matter.

Dr. Kidd said he thought it right, for the true history of the operation, that this case, though terminating unfortunately, should be placed on record. It was, he said, only the third time the operation had ever been performed in Ireland. The first was in a case of his in which Dr. Clay, of Manchester, had operated, in which there were no adhesions, and the patient died within 23 hours. The second was Dr. Gordon's case, in which there were adhesions to a slight extent, and also fatal. The tumours in each of these cases had been exhibited to the Society; and, though the cases had been unfortunate, this should not deter from the operation, as the history in this respect differed little from that of other capital operations.—*April 12, 1862.*

Cirrhosis of the Liver.—DR. KIDD presented a liver in an advanced stage of cirrhosis which he had removed from the body of a woman, aged 36, who had died in the Coombe Lying-in Hospital, on the 28th March. She was admitted into the hospital on the 25th, complaining much of inability to pass water; but on introducing the catheter there was none in the bladder. She stated that she was about five months

pregnant. She had general anasarca of the lower extremities; and there was great effusion into the peritoneal cavity. Three hours after admission she was delivered of a five months' child. There was no hemorrhage; the effusion into the abdomen now increased. Next day she was deeply jaundiced, of a dark olive colour; the kidneys were now acting freely; the urine being loaded with bile; coma soon set in, and she died on the third day after delivery, having been perfectly comatose for several hours. Dr. Kidd said he thought the case worthy of being brought forward, for three reasons:—1st. The greatly cirrhotic liver in a woman who never took spirits of any kind. 2nd. The occurrence of pregnancy with a liver in such a state. 3rd. The absence of convulsions notwithstanding the presence of such extreme cholemia, which Braun lays down as one of the causes of puerperal convulsions.—April 19, 1862.

Tubercles in the Brain.—Dr. ROBERT M'DONNELL brought before the Society the brain of an individual who had been the subject of very rapid and general development of tubercle within the chest, abdomen, and cranial cavity.

The following was the history of the case:—

Thomas Grady, aged 17 years, was received into the Mountjoy Convict Prison, January 24th, 1862. When inspected on his reception he made no complaint of illness, and although of a scrofulous aspect, bore upon him no outward marks of having suffered from scrofulous disease; an obstinately constipated state of the bowels, which was relieved from time to time by castor oil, was all that he complained of, up to the 20th of February, when he was admitted to hospital on account of pleuritis on the right side of the chest. On examination it appeared that effusion had taken place into the right pleural cavity, which, however, seemed to be localized in the lower part by old adhesions. His pulse was very quick (120 to 140) and weak; his tongue furred; he had, for two days, constant vomiting, and afterwards had, irregularly, attacks of diarrhea, which he attributed to the use of cod liver oil, and bark and iodide of potassium, which were ordered for him after his fever had in some degree subsided. He so far improved as to be able to sleep comfortably on either side, and he was strong enough to leave his bed and go into the open air during the mild weather in the early part of March. His appetite, however, did not improve; he lived chiefly on an egg beaten up with milk and his allowance of wine. He lost flesh; became weaker; his cough became worse; his pulse was rapid and feeble. He made no complaint (except of the cough) until 48 hours before his death, when the sickness of stomach returned, and he suffered from intense headache. He referred the pain to the forehead; he was at no time delirious. He sank rather suddenly at last, on the 15th of this month (April).

Autopsy.—On opening the chest the traces of extensive pleuritis of the

right side were discovered; the pulmonary and costal pleuræ were adherent almost throughout, save at the lower part externally, where about a pint of serum still remained unabsorbed. In both lungs there was extensive development of tubercle not as yet anywhere softened. There was no effusion of fluid into the abdomen, but all the viscera of this cavity were richly studded over with tubercles; tubercles also existed in the liver abundantly, in the kidney sparingly, while one solitary mass was found in the spleen.

The brain, which was exhibited to the Society, contained in its substance about five-and-twenty distinct tubercular masses; some of these could be felt on the surface, but most of them were embedded in the grey substance of the hemispheres. They varied in size from a pea to a filbert, and some of those on the surface could be seen to have coalesced and *softened*. There were none discoverable in the cerebellum, pons, or indeed anywhere about the base of the brain.—*April 26, 1862.*

Thoracic Aneurism.—Dr. J. F. Duncan exhibited a specimen of this disease which presented some points of interest. The preparation was taken from the body of a woman, who had been a patient in the Adelaide Hospital, and who had died suddenly, but quietly, on the preceding Wednesday morning. The night nurse had seen her alive at five o'clock that morning, and in an hour afterwards she was discovered by her fellow patients to be dead.

She was admitted into the Hospital on the 29th March, 1862, under the care of his colleague, Dr. Barton, who, on discovering the nature of her malady, transferred her to the medical ward. The history she gave of herself was as follows:—She was a married woman, 37 years of age, the mother of a family, and had been uniformly healthy, having never had a day's illness, except from her confinements, and she had never met with any accident. She could not account for her disease in any way. In September, 1861, she was suddenly seized with a sharp pain under her left breast, which darted round her back, up between her shoulders, and along the left side of her neck to the top of her head, finally settling down in the back of the left shoulder, where it has remained ever since. At first it was so severe as to interfere with free breathing, and prevented her lying on that side. She was not otherwise unwell. On the first of January she suddenly lost her voice, which became low and whispering.

On her admission she was somewhat emaciated, but presented the appearance of a woman who had lived a regular and temperate life. Her complexion was pale, her general health good, and there was no cough. Her aspect presented no indication of anxiety or even suffering.

Immediately beneath the sternal end of the clavicle, a slight prominence of the parts was observable, with a distinct and forcible impulse, greater in amount than the impulse of the heart in its proper position. This

impulse was heaving, rythmical in its character, and limited to a space of about two inches in diameter. Corresponding to the seat of the impulse, there was dulness on percussion for about an inch-and-half to the left of the left margin of the sternum, and two inches in vertical extent downwards below the clavicle. In this spot, also, there was audible a thumping sort of double sound, extremely like the natural sounds of the heart, but totally destitute of any bellows murmur. The auscultatory phenomena remained unchanged all through the progress of the case. The symptoms she presented were, first, the whispering voice, emanating evidently low down in the throat, having something of a stridulous character, and dysphagia, which was marked by this peculiarity, that she could swallow solids without difficulty; but when she attempted to take a second sup of any fluid, she had to stop. Dr. Duncan attributed this symptom to spasm of the œsophagus, the result of reflex action of the pneumogastric, the consequence of irritation from stretching over the aneurism, and not to direct mechanical pressure, the ordinary cause of dysphagia. She had no dyspnea, nor acceleration of the respiration; no hemoptoe, and the cardiac sounds and impulse were all perfectly healthy. There was obvious feebleness of respiration in the left lung, and some difference in the radial pulses, that on the left side being the smaller of the two; this difference was much more marked in attempting to compress the artery. She complained of pain in the seat of the tumour; this pain was of the double kind, one being dull and constant, and the other occasional only, but sharp and excruciating. She was unable to lie on her left side. She further complained of a sense of numbness and coldness stretching up the left side of the neck. Before proceeding to notice the changes subsequently observable, Dr. Duncan thought it right to allude to the treatment, which consisted of the direct application of refrigerating lotions to the tumour, and of the internal administration, first of alum in 5 grain doses, and subsequently of quinine in combination with digitatis. This treatment, which was originally recommended by Dr. O'Bryen, of Bristol, who has detailed the particulars of a case terminating successfully under its use, in the 24th vol. of the original series of the *Dublin Medical Journal*, Dr. Duncan thought deserving of more attention than is generally bestowed on it. Many years ago, Dr. Duncan had a case of undoubted aneurism of the ascending portion of the arch of the aorta, in which the physical signs disappeared under the use of these remedies, the patient dying subsequently of another disease; but owing to the distance at which he lived from town, the opportunity of verifying the diagnosis was lost.

In the present instance the patient experienced the greatest relief from the treatment, simple as it was. Whenever the cold was suspended for any lengthened period, her sufferings recurred, so that there could be no hesitation in referring the benefit particularly to the local application.

The improvement consisted in the alleviation of pain, the subsidence of the external tumour, the diminution in the force of the impulse, her voice becoming louder and clearer, and the dysphagia entirely disappearing.

Notwithstanding the obvious change in the signs and symptoms, indicating a very material amendment in the patient's condition, Dr. Duncan was not satisfied that there was really any improvement in the aneurism, and explained to the students in attendance, that the changes indicated were all consistent with the idea that the tumour, enlarging in a different direction, might cease to press in the situation where it was most prominent at first. In a short time there was distinct evidence of the truth of this conjecture. The dulness increased over a larger space downwards, the difference in the force of the radial pulse became more manifest, and the respiratory murmur ceased entirely to be audible in the upper part of the left lung, both anteriorly and posteriorly.

The *post mortem* examination was made five hours after death. Some effusion of serum was found in the left pleura. The whole of the left lung was condensed and carnified. It had lost the crepitating feel of healthy lung, but it did not exhibit any trace of inflammatory consolidation. In volume it was smaller than natural. The pericardium was distended by effused coagulated blood, resembling black currant jelly in appearance and consistence. The quantity would be about four fluid ounces. The heart was reduced in volume to its smallest possible dimensions, obviously from the pressure of the effusion contained in the pericardium. The aneurism itself occupied two-thirds of the transverse and the commencement of the descending portion of the arch of the aorta. It was very large, being capable of containing a large orange, rough, and deeply marked with bands internally, and filled with a firm fibrinous coagulum. The left pneumogastric nerve passed obliquely across the front of it, and was firmly adherent to it. The recurrent branch could be traced at its point of departure from the pneumogastric, but was soon lost in the mass, as it passed up posteriorly. The origin of the innominata was free, but both the left carotid and subclavian were involved in the disease. The anterior and right side of the tumour had become adherent to the pericardium, and at the upper part of this membrane the fatal rent took place; it was small and narrow.

The case appears to present some features of interest well worthy of careful observation. The impossibility of accounting for the disease, either by accident or by the habits of the patient; the absence of bellows murmur during the entire period she was under observation; the spasmodic dysphagia, the benefit she derived from the treatment, and the existence of well-marked layers of coagulated fibrin, are all points upon which attention will be arrested. How far the occurrence of the latter may have depended upon the treatment, is a question with respect to which differences of opinion may be entertained; but if not the direct

result of the remedies employed, the coincidence of their development with this peculiar treatment should not be overlooked.—*April 26, 1862.*

Total Inversion of the Uterus, with complete Procidentia, and a Polypus growing from the Fundus.—Dr. M'Clintock exhibited a coloured drawing of this case. The patient was an unmarried woman, aged 66 years, who had been admitted to one of the chronic wards of the Lying-in-Hospital, 1st April, 1862. There had been no symptoms whatever of uterine disease till six weeks previously, when this large tumour, altogether measuring nearly seven inches in length, suddenly extruded from the vagina during a fit of vomiting. The free extremity of this tumour was formed by a polypus, of the fibrous kind, about the size of a horse-chestnut, and growing from the fundus of the womb. Next to this was the inverted uterus, having the orifices of the Fallopian tubes quite discernable. Continuous with this was the everted vagina, which constituted the first three inches of the tumour, proceeding from the pelvis. All these parts were shown in Mr. Conolly's drawing. When the tumour first descended, some hemorrhage took place, but none of any consequence since. Dr. Denham, Master of the Hospital, removed the polypus by means of the *écraseur*, and it is now exhibited to the Society. A very smart hemorrhage ensued, the bleeding coming from three arterial branches. Pressure had to be kept up for some hours to control this bleeding, as the ordinary styptic applications, including a strong solution of perchloride of iron in glycerine, had no effect upon it. The extirpation of the uterus being resolved on, Dr. M'Clintock, who now had charge of the Hospital in the absence of Dr. Denham, effected this in the same manner as in the case formerly submitted to the Society, viz., by the combined employment of the ligature and the *écraseur*. Accordingly, on 21st April, he applied a whip-cord ligature with Levret's canula, and left it on, occasionally tightening it, for three days. At the end of this period, the ligature, which had cut only a very short distance into the tumour, was removed, and the chain of the *écraseur* substituted. During the action of the instrument, which was worked very slowly, the patient experienced much pain, and showed some symptoms approaching to faintness. However, she underwent the operation without shrinking. Stimulants were freely administered, and at the close she got a dose of opium. No unpleasant symptoms ensued, and the woman has made a perfect recovery. The extirpated uterus was exhibited before the Society. It was about the size of an orange, and in the pouch of peritoneum, were the remains of the broad ligaments and Fallopian tubes. Through each of the latter a probe had been passed.—*April 26, 1862.* See a fuller account at page 213.

Acephalous Fetus.—Dr. MacSwiney presented a specimen of a fetus

which, in consequence of the singular defect in organization which it exhibited, was calculated to afford much interest, although such specimens were not at all uncommon. It illustrated a curious arrest of development which was designated the acephalous condition. Its history was as follows:—the female who gave birth to the child had carried it for the full period, and it had been noticed that her enlargement was much greater than usual with pregnant women at the end of gestation, so much so, indeed, that a suspicion that she was carrying twins was excited. Her labour was unsatisfactory in character—it was tedious, and the pains were unequal and inoperative. The os dilated very slowly, and no presentation could be made out. For, in making a vaginal examination during the progress of labour, nothing could be reached by the finger but a soft, elastic tumour, which was the bag of the membranes, containing the liquor amnii. That was a state of things which gave rise to much anxiety as to the part which might, ultimately, present; and after labour had continued for about thirty-six hours, it became necessary, from the condition of the patient, to rupture the membranes, when—after the escape of the waters in a manner presently to be alluded to, the pelvic extremity presented, and he delivered by the feet and breech, what he thought, as he was extracting it, would prove to be a fine healthy child. Just as he had completed its delivery, however, he found that it had no head, but that it was alive.

The child lived for fully five minutes—that is, the cord pulsated, and the heart could be heard and felt beating strongly during this time, but it did not move, and not one respiratory effort was made; and on examining the lungs, subsequently, they were found to sink in water, a circumstance which would be held by many to denote still-birth. In a medico-legal point of view that fact was of considerable importance, as a difference of opinion would appear to exist still, as to whether the circulation of the blood alone is enough to constitute legal evidence of live birth.

In a trial which recently took place in England the question, he believed, arose as to whether a child could be said to have been born alive when there had been no respiration, although the circulation might have gone on for a time. Now in the case Dr. MacS. was relating, the child was undoubtedly alive (physiologically), and the case went to dispel the view of some who held that to constitute live birth, it was necessary that respiration should be set up.

Dr. MacS. said, that in the case which he now brought to the notice of the Society, there was a remarkable occurrence when the membranes had been ruptured, namely, an enormous gush of the waters, which made a loud sound in rushing out, and which filled two wash-hand basins hastily brought by the nurse to receive the fluid, which, in addition, deluged the bed and floor. He did not divide the cord until the circulation had ceased. There was no cranium, no occipital, or other bones of the head,

except the frontal, and an osseous mass at either side, which looked like the petrous portion of the temporal bone. There was no cranial cavity. The lower extremities were remarkably well developed, and one of the students present at the examination made the pertinent remark, that that might be accounted for by the fact that the blood went to the lower extremities in a greater quantity than in a normal fetus, as there was here no brain requiring to be nourished.

The body was perfectly well formed, too, in all other respects. The testes were found not to have as yet descended into the scrotum, but they had left their situation near the kidneys, and had arrived at the internal abdominal ring, so that there was no other malformation or arrest in this case, save only the one detailed.

Dr. MacSwiney explained the views of Professor Rudolphi, of Berlin, respecting the mode of origin of these monsters. He regards the imperfection as being due to the setting-up of an intra-uterine hydrocephalic inflammation, and has preserved various specimens of the fetus at different periods of its intra-uterine life, which seem to entirely confirm this view.

An enormous accumulation of the amniotic fluid, such as had occurred in this instance, would appear to be general in these cases, as many observers have reported the same thing, so that we may reasonably conclude that there is some fixed relation between the increased quantity of fluid and the embryonic hydrocephalus.

Dr. MacSwiney also exhibited a dry specimen of a similar arrest of development.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.*

TWENTY-FOURTH ANNUAL SESSION, 1861-62.

SEVENTH MEETING, 14TH JUNE, 1862.

DR. BEATTY, in the Chair.

DR. MACSWINEY read the following cases of *Puerperal Fever*.

I.—On March 20th, '62, I was called upon to visit Mrs. M'D., aged about 25 years, the wife of a cabman, living at 21, Mercer-street, who was reported to me as being ill for the last six days of lying-in fever.

Upon visiting her, I found her *history* to be as follows:—She had been confined of her second child on the 13th instant, after an easy and natural labour of three hours' duration. The next day she got a shivering

* These reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

fit, and felt ill and weak; she was hot, and suffered from headache, with loss of sleep and appetite; she had a "bad taste" in her mouth, and was very thirsty. She remained in this state, I am told, for some four or five days, feeling very sick, and taking no food, only drinks. Two days ago she was attacked with diarrhea, and also vomited a couple of times. She had felt slight abdominal pain from the first day after her confinement, but did not attach much importance to it. These were the only details I could procure.

Present State (March 20th)—She has a worn, pinched, and anxious look; she lies for the most part on her back, but is able, with some difficulty to turn upon either side; her tongue is dry and rough, and is thickly covered with a brown coating; she is extremely thirsty; her pulse is small and feeble, and beats 140 in the minute; she has diarrhea; the bowel discharge is whitish-yellow in colour, and of about the consistence of stirabout, she passed it involuntarily in the bed; she complains of being very weak, and describes a painful sensation experienced by her about the abdomen and pelvis; there is, however, no marked tenderness on pressure, over any part of the abdomen, and the uterus appears, upon examination, to be but moderately well contracted; there is not a drop of milk in the mammæ, and the lochial discharge, which is said to have been present for two days after her confinement, is now entirely absent; her breathing is rather hurried, and she suffers occasionally from slight attacks of cough, during which some milky-looking frothy mucus is brought up.

21st.—The diarrhea continues, the bowel discharge being very thin, of an ochre colour, and passed involuntarily in the bed; the abdomen is somewhat distended with flatus; it is slightly sensitive to the touch and pressure, but by no means what one might call painful; the pulse is 140; the tongue is somewhat cleaner than yesterday; she has great thirst for cold drinks; her breathing is rather more short and oppressed than it was on last visit, and she coughs now a good deal, the irritation causing the cough seemingly arising from a thick, creamy, frothy saliva, which appears to collect at the back of the pharynx, and which she is obliged to make frequent efforts to bring up; she has slept but little last night, and what sleep she had was disturbed and unrefreshing; she is much weaker than before, to day, but expresses herself in a very sanguine manner as to her ultimate recovery.

22nd.—She seems worse and weaker to-day; she is flushed; her breathing is more oppressed, and her cough more troublesome; her attacks of diarrhea continue, but are, perhaps, a shade less urgent; the discharge is somewhat green in colour now, and quite as liquid as before; her pulse is 140, weak and fluttering; her respirations are 34 in the minute; she complains that she has a confused feel in her head, and that her memory is quite failing her; she has no pain, but is greatly prostrated,

and has a most collapsed and anxious look; and, on the whole, her state is one of a very alarming and almost hopeless character.

23rd.—The diarrhea is somewhat controlled by the remedies to-day, and the oppression of breathing is not quite so great as it was on yesterday, but the prostration remains as great as before, and the fever continues unabated; although the oppression of breathing is a shade better, the number of respirations in the minute is slightly increased, being now 36; and the pulse is fully at, if not above, 140 in the minute. The brown coating has cleared considerably off the tongue, and that organ is now of a deep dark red colour, showing many enlarged papillæ scattered over its surface. She had some sleep last night, and feels rather better to day; bed sores, however, have formed upon her back, and over the right hip joint, and the tympanitis has increased considerably.

For the following five days she remained in pretty much the same state of extreme danger as she was in on the 23rd, the only remarks necessary to make respecting her condition in this interval are:—that the diarrhea was considerably checked, but not arrested; that the weakness and prostration were extreme; that the tympanitic enlargement of the abdomen was greatly augmented, and the bed sores considerably increased in extent and painfulness; the pulse and respirations remained as high as before, and she frequently presented the appearance of being in a moribund state.

29th.—On visiting her to day, she seemed to have rallied considerably; she had been able to take and enjoy some nourishment, and had slept rather well; all traces of fever seemed to have disappeared, and the only enemy I could recognize, against which she would have to contend in her struggle for life, was debility. I made every effort I could to aid her in this unequal contest with death—but in vain, she died, worn out, on the 5th day of April, being 22 days after her confinement.

II.—Mrs. S. of — street, a primipara, was seized with the pains of labour, at 6 o'clock A.M., March —. I saw her in the course of the day, and ascertained that *the feet* presented. She was a stout, leucophlegmatic lady, of large, but flabby and relaxed fibre, and her labour was slow and unsatisfactory. Late in the evening, as she was not making progress, and some symptoms of an unfavourable kind had set in, she was seen by Dr. Churchill. No instrumental aid seemed called for, however, and finally she was delivered of a dead fetus, without my being obliged to have recourse to further operative interference, than was included in my aiding the efforts of nature, by supporting and extracting the extremities and breech.

Next day the report I received from the nurse was, that she had passed a tolerably quiet night, had slept for a couple of hours, and had passed

water; she looked pale and feeble, and her pulse was fast, quick, and weak.

Twenty-four hours after the birth of the child, this lady complained of *feeling extremely cold*, and experienced a chill creeping sensation in the course of the spine; she called for additional bed-cover, and had a hot drink.

Next day her pulse was 120; her tongue was coloured yellow; she had not slept well, and she complained of *colic*, which had been relieved by the application of very warm fomentations. Everything that could suggest itself to my mind, as calculated to arrest the progress of the insidious disease, which it was too plain had seized upon her, was had recourse to, and I gave her wine, brandy, and animal jellies liberally, but in vain; she kept losing ground, without any very prominent symptoms, save quick, weak pulse, and great muscular prostration, together with uneasiness in, and tympanitic swelling of the abdomen.

On the morning of the *seventh* day after she had been confined, *diarrhea* set in. Dr. Sawyer now saw her with me, but nothing could be done to save her, and she died that evening.

III.—At 1 o'clock, A.M., January 27, 1862, I was called upon to attend Mrs. R., of G.-st., who had been in labour for some two hours. It was her fifth confinement. Her health had been very indifferent during the last twelve months; she had wasted; had palpitation; her appetite was not good, and her strength had been considerably reduced. For two months before her labour came on she had not left the house; she could not walk, she said, and she suffered from a dragging, distressing weight and pain in the pelvic region, which every movement increased. Her pulse, when I saw her, was weak, and her voice was low and feeble.

Her labour progressed but slowly; the pains came on at regular intervals, but were not powerful or effective. After some time I was made aware, upon examination, that the anterior lip of the os uteri became caught, at each expulsive pain, between the head, which presented, and the pubis. I used the utmost efforts, assiduously but carefully persevered in, to cause it to remain up. I reduced it, so to speak, very many times, and kept a finger so placed as to prevent its descent, but with no permanent avail; it always redescended the next pain which came on after I removed my hand. And, after a couple of hours, the lip became very much engorged and enlarged, and the resistance to my finger, as I endeavoured to keep it over the head during a pain, was so considerable that I was apprehensive of doing mischief by such sustained exertions in that direction. Presently the lady began to become impatient and uneasy about herself; she complained of great and quite unusual pain in the back, hip and thighs, and her strength was failing. Some bloody discharge, too, from the vagina, now made its

appearance; the enlarged lip had assumed all the characters of a thrombus, and the most cautious effort to return it was followed by some bleeding. I regarded her situation at this time as critical; her pulse was beginning to flag, and exhaustion was setting in; the hemorrhage which had already taken place, warned me that a more alarming bleeding might at any time occur. Moreover, should this thrombus burst, I could not but consider that the occurrence would be, to all practical intents and purposes, a rupture of the uterus; which the succeeding expulsive efforts might, now that the first rent would have been made, have carried up through the body of the organ. I determined, therefore, to deliver by the forceps. At this time Dr. Denham was associated with me in consultation; and after he had made a careful examination, he gave me his unqualified sanction for immediate instrumental delivery. Accordingly, I applied the long forceps, and delivered her, without any difficulty, of a living child. The placenta came away satisfactorily ten minutes after the birth of the child.

I observed, before leaving her, that the uterus had not contracted to the extent that would have been desirable. I used all proper means to stimulate its contraction; I placed a pad over the organ under a carefully applied binder, and I gave her a stimulant draught. There were no threatenings, whatsoever, of hemorrhage; but the uterus felt large and flabby under the hand. The following diary contains a statement of her condition during the ensuing few days:—

28th.—Has had a little sleep, but does not feel refreshed; and has an uneasy, rather tender, sensation over lower part of abdomen when pressure is made. The uterus remains enlarged to a greater extent than is usual, twelve hours after delivery. Her pulse is 100; tongue clean; no thirst; no desire for food.

29th.—The report is, that she spent a sleepless night, and had a shivering fit, which obliged her to have additional bedclothes put over her. Her pulse is 120. The lochia are scanty, and but a few drops of milk are secreted in the mammae. Her tongue is clean, however; her bowels have been opened by an aperient draught, and she has no severe pain anywhere. Her head is slightly disturbed, the distress scarcely amounting to pain, and she is rather restless and fidgety.

30th.—She complains to-day of great headache; her back, too, has been paining her through the night; she had not much sleep, and is depressed and anxious about her state. Her pulse is now 130. Her tongue is becoming covered with a creamy-like coating; and she suffers a good deal from pain and uneasiness in the inguinal and iliac regions. There is, however, no swelling, or tenderness upon pressure, along the course of the femoral vein. Her limbs are usually kept extended; and pressure made over the uterus, which is large and flabby, causes no exquisite pain at all, but only an uneasy and distressing sensation.

There is a good deal of flatus in the intestines ; the urine is scanty and high coloured. No appetite ; thirst rather urgent.

31st.—Passed a bad night ; had some sleep, procured by an opiate, during which she tossed about and raved. Her pulse is up to 136. Tongue covered with a white coat ; thirst considerable. Back very uneasy ; has to be turned in the bed now ; bowels regular. No milk in mammæ. Lochial discharge absent. Bowels distended with flatus.

Feb. 1st.—The abdomen very much enlarged from tympanitis ; and the distress consequent upon this state very considerable. The pulse remains at 136, and the tongue is thickly coated. She complains very much of her back, and indicates the sacrum as the situation of this distress. Has no sleep except what has been procured by sedatives, and *that* is disturbed and unsatisfactory. No vomiting ; bowels rather constipated.

It would subserve no useful purpose to further detail the daily report in this case, one day's was so like the other in all important particulars. So I will merely remark that from this date to the 10th of February, the symptoms remained very much the same. The fever continued in full force. Pulse 136, or over ; skin hot ; head aching ; abdomen and back disturbed and painful ; secretions perverted ; thirst, sleeplessness and coated tongue. Still she never became alarmingly weak ; the powers of life never fell very low ; she was able to take the animal jellies and other sustainers of strength prescribed for her ; and her whole state conveyed the impression to me that she would struggle through the disease. But up to the 15th day of her illness her pulse never fell one beat, remaining for the greater part of that time at, or even over 136. Her head continued to pain her, and the flatulent distension of the stomach and intestines remained ; whilst the uterus never returned to the same state of contraction it might be expected, in a healthy person, to have reached at this period.

After the 15th day, however, the general fever subsided ; her tongue became clean, and the thirst, which had so tortured her, was no longer present. But a most annoying attack now came on, affecting the perineal region generally, and principally referred to the space between the anus and coccyx. She had heat and pain in this part ; it caused her great pain to have the bowels opened ; and, upon examination, the parts were found swollen and red. Upon making pressure, I found that pus passed out of the anus ; in fact an abscess had formed in the recto-coccygeal space, and had opened internally. The progress of this abscess was tedious and troublesome ; it interfered considerably with her convalescence. A fistulous opening formed externally, which communicated with the internal orifice ; and, finally, I cut through the sphincter, as in the operation for fistula in ano, and she is now nearly cured of this affection, and otherwise in perfectly good health.

IV.—Mrs. M.D., Wicklow-street, aged 25 years, was seized with the pains of labour, in her first confinement, on March 2nd, 1862. She was naturally a somewhat delicate young woman; but had not been particularly an invalid during her pregnancy. Her labour was rather tedious, the *os* being somewhat slow in dilating, and the head, which presented, being detained at the outlet for three quarters of an hour longer than could have been expected from its being, apparently, so nearly at the point of actual delivery. But her strength seemed to have been a good deal expended at this time; the pains were not either very strong nor very effective; and, finally, when delivery took place, she was much exhausted. No instrumental aid was had recourse to. The child, a female, was born alive, and healthy; and the placenta was soon and naturally cast off. Ten hours after the birth of the child she was rather hot and had not slept, but in other respects felt quite well. The pulse was fast, but I did not count it. I saw her a second time on the evening of March 3rd (the first day after her confinement) and ascertained that she was suffering from very severe headache, heat, and restlessness. She also had thirst and quick pulse. I gave her an opiate, directed some cooling, demulcent drink, and an aperient draught for the morning. She described a “chill,” something very much resembling a *rigor*, as having occurred in the evening, about 20 hours after delivery. I gave the necessary directions as to her treatment, and prescribed an aperient.

March 4.—On visiting her this day the report I received was that she had not slept through the night, but had been hot and restless; with thirst and dry skin. The opening medicine had acted well, and she felt relieved therefrom. Her head was not paining her quite as much now, but still it ached. Her pulse was 120; her tongue coated and yellowish in colour; the lochia were scanty, and there was no milk in the *mammæ*. The uterus was scarcely sufficiently contracted, and there was an obscure tenderness over, and in the immediate neighbourhood of it, which was perhaps rather more acutely felt when pressure was made than is natural at the same period; but the distress was by no means severe; was not complained of unless attention were directed to it and the part was subjected to pressure. Her decubitus was on the back, or on either side indifferently; her countenance was not anxious, but she complained of being very thirsty, and of having acid in the stomach.

5th.—Spent a bad night; has had little or no sleep; her thirst has been excessive, and she has suffered a good deal from dry heat of skin. Her tongue is coated yellow, and is clammy; her head continues to ache badly, and she has pain in the lumbar region—felt even when she is quite at rest. She has not the least desire for food. Her pulse is 130, rather small and hard. No increase of abdominal tenderness, nor is there any pain experienced when pressure is made along the course of the femoral vein, or in the iliac region. The bowels have acted twice since

yesterday, but there is no diarrhea. The renal secretion is stated by the nurse to be passed in normal quantity. The abdomen somewhat swollen and tympanitic. She complained that her left arm pained acutely when she moved it.

6th.—She had a few hours sleep, from an opiate on yesterday evening; but was quite as wakeful as on previous occasions through the night. The thirst and headache were complained of quite as much as they before had been; pulse 136; intellect quite undisturbed; strength impaired; no appetite. She has no vomiting, and does not complain of nausea.

Both arms were now painful—it distressed her to move them—but they were not swollen nor red, that I could detect. She never had had rheumatism, nor pains of any kind in her bones previously. She was evidently losing strength. She could not turn in bed without assistance, and dark areolæ were beginning to form around the eyes.

7th.—Her state to-day was not materially altered from that in which I have described her as having been on yesterday. Her pulse was 136; rather weak, but without intermission or decided feebleness. Her tongue was dry, with a light brownish-white coating on it. She had vomited a greenish, glairy fluid three or four times, and her stomach did not so easily tolerate the remedies or nourishment as before. The sleeplessness was as great as ever; she did not obtain any sleep except from an opiate, and but little even from that. The tympanitis had increased. The mammæ were flaccid, not a drop of milk having, apparently, been secreted in them. The lochial discharge was entirely absent. She was not in acute pain; her reason was unclouded; and she was quiet, and hopeful of recovery.

8th.—She had unmistakeably lost ground; her strength was much diminished; her voice was much more feeble; and she was unwilling to be moved. She continued to complain of her head, and of the thirst. Her pulse was still 136; and the tympanitis had increased. She had some slight cough, and was hoarse, and thought she had somehow caught cold. Her stomach was again at rest, and she was able to take her remedies. But the bowels had completely given way; the sphincter was relaxed, and she passed the feces involuntarily, and she was wretchedly weak. Her knees were drawn up towards the abdomen, but she had no acute pain upon pressure anywhere. She never rallied from this state, but got rapidly worse, and she died at half past one o'clock A.M., on the ninth—the seventh day after delivery.

I have confined myself, in the foregoing report of cases, to a simple detail of the more prominent symptoms manifested during the progress of the disease, with an account of the final result. I have no intention of deducing any positive conclusions as to the nature and treatment of the fever which was present in these instances, from such a limited

experience (which, however, is all that I possess) as those few cases affords; and, accordingly, I shall conclude by calling attention to a few points of interest associated with the history of the patients:—

First, as to *Treatment*.—I did not adopt any one fixed rule or plan of treatment in regard to the management of these cases, but rather met the symptoms as they arose in accordance with the general principles of the science of medicine. Thus, I administered preparations of opium to allay pain and procure sleep; I gave a variety of astringents to control the diarrhea; terebinthinate fomentations and linseed meal cataplasms were applied to the abdomen, as remedies for the tympanitis and the feeling of uneasiness so constantly experienced in this region by my patients. As to stimulants—wine, brandy, and spirits were given in moderate quantities to three of the patients. The fourth, Mrs. R., did not get any vinous stimulants, but drank all through, as did the others also, good beef tea and chicken broth in liberal quantities. And she, as will be noticed, was the only case of recovery amongst the four. But, it is far from my intention to convey that the *post hoc* was *propter hoc* in this instance. The symptoms, in many important particulars, were the same in all three, viz.—the rigor about the beginning of the second day after the confinement; severe headache; great acceleration of the circulation, with a pulse starting at about 120, and soon reaching, and remaining at 140; non-secretion of the milk; suppression of the lochia; an uncontracted state of the uterus; thirst; sleeplessness; tympanitis; and diarrhea. The intellect remaining unimpaired to the close, and all evidence of acute peritonitis being absent. For I did not detect any evidence of peritoneal inflammation in any of the cases. There was, as I have detailed, great distress and uneasiness upon pressure being made over the abdomen, but no excruciating pain, such as is common in peritonitis, existed; the countenance was not such as is usually present in that affection; and the *decubitus* was easy, with the limbs extended. The one lesson which the cases seemed to me to plainly teach was, that there was a poison circulating through the blood, and that it was potent enough to destroy life.

DR. JOHN A. BYRNE read a paper on a case of *Spina Bifida*, and exhibited a drawing by Mr. Conolly, which showed the appearances of the tumour. It occurred in a male child, the woman's first, and occupied the situation of the two lower dorsal and three upper lumbar vertebræ.

At first the tumour was very nearly oval in shape, but as the disease advanced it became more circular, and just before the death of the infant it measured twelve inches in circumference; it was very purple in colour; elastic, and presented the other characteristics of this malformation, and was very much abraded on the surface, as if the cuticular coverings had

been removed during the process of parturition; an appearance which Dr. Byrne stated he had frequently observed in these cases. The cranial bones were separated to a greater extent than natural, and this separation became more manifest as the disease advanced, until it finally presented the appearance so beautifully delineated in the drawing.

The health of the infant during the first two months was very good—the abraded surface of the tumour had become perfectly cicatrized; it enjoyed its food, slept well, presented no symptoms indicative of any nervous lesion, and was going on well until the ninth week, when it began to lose appetite, and look very delicate; it also became very peevish, and began to be attacked by slight convulsive movements; and these symptoms increased until its death, the size of the tumour increasing in proportion. The bones of the cranium also became more widely separated; and in this manner it lived on for about ten or twelve days, when it died in an attack of convulsions.

The treatment adopted in this case was pressure, but it did not prove successful, although it appeared to prolong the infant's life for some time. Out of five cases of this malformation which he, Dr. Byrne, had seen, death occurred on the second, fourth, ninth, and twelfth days respectively, and, as we see in this case, the child lived for three months; and were it not for the accompanying cerebral complication, it is probable that continued pressure would have been attended with success, as in some of the cases related. As far as Dr. Byrne's experience of this malformation went, it was most frequently accompanied by separation of the cranial bones, from effusion within the cranial cavity, as out of the five cases mentioned it occurred in four. Three of the children were males and two females.

TRANSACTIONS OF THE COUNTY AND CITY OF CORK MEDICAL AND SURGICAL SOCIETY.^a

SESSION 1861-62.

—
FEBRUARY 12, 1862.

DR. POPHAM in the Chair.

Epilepsy, Real and Feigned. By DR. T. W. BELCHER, Physician Extraordinary to the Cork Fever Hospital; &c., &c.

While standing in a well-known music shop in Bridge-street, on Jan. 23, about 3 o'clock, P.M., I observed a man coming from St. Patrick's

^a These Reports were supplied by the late Dr. W. P. Bernard, Secretary to the Society.

Bridge, and making laborious efforts to reach the door inside which I stood. At last he did reach the doorway, and diversified his attempts at pushing in the door by tumbling against the plate glass at both sides, and by raising his right hand as if to avert some injury, which, from his frightened aspect, he seemed to fear from above.

Thinking the man was drunk, I opened the doors to save the glass from destruction, when he fell heavily to the ground in a fit, and remained so for about 12 minutes. For a time he struggled violently, tossing about his arms and legs; his face assumed a purple colour, while the skin got at first cold, then warm, and finally he perspired; the pulse being, in the first instance, small and quick, but later, strong and full. Meanwhile he kept his eyes open; he did not foam at the mouth. So far as I could observe, he did not utter a cry or exclamation of any kind previous to or at the time of his fall. By partly raising his head and shoulders, and by loosening his neckcloth; by throwing water on his face, and into his mouth, as well as by rubbing his hands, so as to re-establish the circulation in the extremities, he soon got better; after a sigh or two he quietly settled himself as if for sleep; and finally, much against his wish, he was placed in a vehicle, and driven homewards. As the physician has not often the opportunity of witnessing the immediate antecedents of an epileptic seizure, I made some inquiries relative to the case; and on the following day called at the residence of the patient.

From his wife I learned that he was aged 43; that he had had frequent fits for 10 years past, but not one for more than a year previous to this attack; and that each had occurred after a drinking fit, as indeed it had on this occasion; that the man knew well when it was coming; he saw strange sights; and that with this knowledge, and this—as I may term it—hallucinative or illusive vision,^a he had sought to gain the music shop to avoid being run over by horses.^b

He is a cabman by occupation, a man of apoplectic build, and has always recovered immediately from the fit. Indeed, at the time of my visit, he was driving his cab as usual.

In connexion with this I may note a case which I met with some time ago.

In the year 1855, when the militia regiment of which I have the honour to be the senior medical officer was stationed at Ballincollig, I was aroused one night by an officer, who begged me to come forthwith to the assistance of one of his men.

While ascending the stairs I heard yells of the most extraordinary kind issuing, as it afterwards appeared, from the patient, who spat in my face

^a “*L'hallucination, la perception des signes sensibles de l'idée; et l'illusion, l'appréhension fautive des sensations réelles!*”—De Boismont—Des Hallucinations, &c.

^b See Dr. Forbes Winslow on the Premonitory Signs of Epilepsy. *Obscure Diseases of the Brain and Mind*, pp. 455-462. 2nd Edition.

the moment I stood by the bedside. He was in a profuse perspiration, tossed himself about in all directions, opened and shut his eyes and mouth frequently, shouted, and spat with all his might, and emitted vocal sounds which no pen could describe.

Some few of the symptoms were those of epilepsy; but the case recalled to mind the “*δαίμονιζόμενοι*” of Holy Writ more than any disease to which mortal men in our day are subject. A very little reflection sufficed to convince me that here was a clever individual, who hoped, by simulating disease, to obtain his discharge from the restraint of plenty of work, supervision, and cleanliness.

He was treated on the spot, before a large number of his fellow soldiers. First, I had him half drowned with cold water—it was a frosty night; next, I had water poured on his face from a height of two or three feet. At last his fortitude gave way, and away went the pretended fit also.

The next part of his treatment consisted in mixing 25 grains of ipecacuanha, and one grain of tartar emetic in a soda-water bottle full of tepid water, and forcing him to drink the mixture after the manner of drenching horses. Lastly, I had his hair cut off, and an ample blister substituted for it; he was taken to hospital, and put on spoon diet. It is unnecessary to add, that not only did his fits never recur, but that no one else got any; and for more than a year after, while I had my eye on him, he entertained a most wholesome horror of feigned diseases, and of the terrible powers of the *materia medica*.

There is, perhaps, no disease more classical than epilepsy. The Greeks called it *ἐπιληψία* from the abrupt suddenness of the attack; and the ancients generally ascribed its origin to supernatural causes.^a Among the Romans it was termed “*morbis comitialis*,” because when a case happened in the Forum the meeting was forthwith dissolved. Those present used to spit on the patient, or into their own bosoms—hence another name given to it, “*morbis qui sputatur*.” Cullen’s definition of it is, “*musculorum convulsio cum sopore*.” And if we refer to one of the ancient physicians—than whom none were better observers of nature, and of the symptoms of disease—we find it thus concisely described by Celsus:—“*Homo subito concidit: ex ore spumæ moventur; deinde interposito tempore ad se redit et per se ipse consurgit*,” and he immediately adds, “*Id genus sæpius viros quam fæminas occupat*.”^b Foville thinks it is more common in females than in males; while Drs. Elliottson, Watson, and many others, coincide in the opinion of Celsus just referred to.

Of making books on this subject there seems to be no end; for in Mr.

^a Sanctorellus, a physician of the sixteenth century, says this notion was general even in his time. The persons affected were presumed to be under the influence of evil spirits, and hence many simulated the disease to excite sympathy. He relates a case in point.

^b De Medicinâ, Lib. iii., Cap. 23.

Churchill's last catalogue the names of Drs. Reynolds, Sieveking, and Radcliffe are presented to the profession as authors of monographs on epilepsy; and we may add another work published by the New Sydenham Society, *On the Minute Structure and Functions of the Spinal Cord and Medulla Oblongata, and on the Proximate Cause and Rational Treatment of Epilepsy*, by Professor Schræder Van Der Kolk (Translated by W. D. Moore, A.B., M.B.), 1859.

Without entering into any tedious array of the various kinds and degrees of epileptic seizures, the various predisposing causes, and the commonly received modes of treatment, it may be well to notice a few points in the first case detailed in this paper.

The total absence of the cry peculiar to these seizures may be noted; and the absence of convulsive closure of the teeth is also worthy of remark. To these add freedom from foaming at the mouth, and we have a case of epilepsy, minus three of its commonest symptoms. Among feigned diseases, attempts at simulating epilepsy occur, perhaps, more frequently than any other, inasmuch as the occurrence of a fit is perfectly consistent with intervals of health; and these intervals may be long or short, just as the impostor pleases.

It has also been observed that no disease has been more frequently simulated with success.^a

In the case detailed in this paper the man made but a poor attempt. His jabbering or shouting like an ape—or, as we should now say, a gorilla—was not an epileptic symptom. He did not complain of any premonitory symptoms; he opened and closed his eyes frequently, had no soap suds in his mouth, or swallowed blood ejected from his stomach; his skin was hot, and he selected the most harmless place for his exhibition; he had not the peculiar physiognomy of the epileptic; nor were his daily habits of that retiring kind so commonly met with in a genuine case.

With the cabman, the predisposing cause was plainly drunkenness—a cause which, according to Dr. Carpenter,^b predisposes to more diseases than any other we know of. Dr. Todd gives several interesting cases of what may be termed “eccentric” epileptic seizures, depending on syphilis, gouty kidney, a blow on the head,^c and so forth, and he rejects the idea that congestion has anything to do with that state of the nervous system which produces epilepsy. His theory is, that “the phenomena of the epileptic fit depend upon a disturbed state of the nervous force in certain parts of the brain—a morbidly disturbed polarity. This may take place under the influence of some poison which may have an affinity for those parts, such as prussic acid—in the same way as strychnine induces an ex-

^a See Gavin on Feigned Diseases, p. 179.

^b Physiology of Temperance and Total Abstinence.

^c A blow on the head. See also Dr. Winslow, op. cit., 2nd Edition, p. 664, and a case by Dr. Russell, in the Medical Times for Feb. 22, 1862.

alted polar state of the spinal cord, or from some disturbance of nutrition which may be strictly local or sympathetic. This undue exaltation of the polar force induces, subsequently, a state of depression or exhaustion, not only in the parts primarily affected, but in some parts of the brain connected with them, according to the degree of the primitive disturbance; just as undue muscular action exhausts the muscular force. The disturbing cause may operate primarily upon parts of the brain more directly concerned with the phenomena of consciousness, as the hemispheres; or upon parts which, when excited, may cause convulsions—as the mesocephale, the region of the tubercula quadrigemina. If the former be chiefly affected, and the latter slightly, or not at all, convulsions are either slight or do not constitute a part of the epileptic fit. If, on the other hand, the latter are chiefly and primarily disturbed, convulsions form the prominent part of the fit. Now the exciting cause of all this disturbance generally operates equally on both sides of the brain. But it may operate more on one side than the other. It leaves behind it a more or less exhausted state of the brain; which again will be most upon that side upon which there has been the greatest previous excitement. This state of exhaustion is very apt to continue as one of weakened nutrition, in which brain tissue is more or less in the condition of a white softening. If the parts in this be the convolutions, mental power, memory, perception suffer; if the deeper parts, as the deeper parts of the white matter of the hemisphere, and the corpora striata, and optic thalami, then we have hemiplegic paralysis.”^a

In the case related by Dr. Todd,^b of an officer who got a blow on the head, and some weeks afterwards had an epileptic fit, the iodide of potassium was used with success after many other remedies had failed. He advocates a similar mode with cases depending on syphilis; in the latter, however, he has also used mercury with advantage.

Professor M^cDowell, in a paper in the *Dublin Hospital Gazette* for 1854, details a case of what he terms “Syphilitic Meningitis,” in which the plan advocated by Dr. Todd was singularly successful; and in a recent number of the *Medical Times*,^c Dr. Russell, of Birmingham, publishes a case of “Epilepsy in Constitutional Syphilis,” which was successfully treated much in the same fashion.

In the epileptiform affections of infancy, M. Blache, of the *Enfants Malades*, Paris, recommends the following preparation:—Oxide of zinc, two drachms; calomel, one drachm; powder of valerian, one drachm; mix, and divide into 70 parts, one to be taken night and morning. A

^a Clinical Lectures (1861), p. 790. Compare with the above that part of Watson's Lectures (pp. 643, &c., Vol. i., 4th Edition), in which the anti-congestion view is given; also, Van Der Kolk's ingenious theory (op. cit.).

^b Op. cit., p. 855.

^c Feb. 8, 1862.

foreign journal^a informs us that Dr. Lange, of Königs-berg, tried atropin in nine cases of epilepsy, three of which were males and six females. The three males, who had been epileptic for years, were cured after its employment for periods varying from three to six weeks. Among the females two cases remained uncured, one died, and three seemed cured, as they had been free from attacks from five to eleven months; the dose was scarcely one-tenth of a grain.

The *Medical Times* for 1858 says:—"In the case of a young man, who had suffered from more than 500 epileptic attacks within the space of eight years, Dr. Reiner tried the effect of compressing both carotids until the complete cessation of the pulsations. This procedure, practised 22 times, on the first appearance of precursory symptoms, always had the effect of reducing the paroxysms to a few almost insignificant convulsive movements; meanwhile, the patient's general condition, both bodily and mental, has greatly improved."

In an American journal for 1861^b a curious case is recorded apparently resulting from the insertion of a set of artificial teeth. The patient had suffered from carious teeth; and, on the substitution of the artificial set, paralysis of the face and tongue resulted. There was a peculiar drawing of the mouth, from which the aura epileptica came, just preceding the convulsions. The tongue was inclined to fall back within the mouth; the patient was fearful of swallowing it. The false teeth were removed, and the soldering was found discoloured. Another plate (of India rubber) was made, when the epilepsy ceased, and the paralysis gradually subsided.

In the *Medical Times* for February 1, 1862, a case is recorded as having been treated in St. Thomas's Hospital, by Dr. Peacock. The details show it to have been a very bad form of the disease, in which the intellectual powers were much impaired. With this patient—a female, aged 11—"the treatment was commenced by giving her a calomel and scammony powder; and this was directed to be repeated at intervals, as needed. She was ordered two grains of sulphate of zinc in infusion of valerian, three times daily. The dose of the sulphate of zinc was increased by two grains on each day of visit, or twice during each week, till, at the beginning of November, or in about a period of 10 weeks, she took 42 grains, three times daily; and this dose she continued for four days, when she became slightly sick, and it was suspended in consequence. During the whole of this time she never had any nausea, or sickness, or other symptoms indicating that the remedy gave rise to any irritation of the stomach or bowels. The urine was several times analyzed by Dr. Bernays, but only a trace of sulphate of zinc was ever detected, and it was therefore supposed by that gentleman that the zinc entered into combination

^a Deutsche Klinik, 10, 1854.

^b The Boston Medical and Surgical Journal.

with the albuminous matters in the alimentary canal, and so passed out of the system."

No other cases were given in which sulphate of zinc was administered in the same fashion, for the detail concludes in these straightforward words:—"The effect of the treatment was not satisfactory; the fits became rather less frequent, but more severe, being more frequently attended by convulsions, and followed by more decided and prolonged coma."

Other preparations of zinc have been used in this disease. Dr. Marcet, assistant physician to the Westminster Hospital, formerly considered the *oxide* a specific in cases of epilepsy;^a but in his recent work *On Chronic Alcoholic Intoxication*, he says:^b—"Since that time (1855), however, having continued to prescribe the remedy for the treatment of this disorder, I am now obliged to admit that it seldom, if ever, cures the disease, although it is certainly often attended with beneficial effects." In his late work, to which I have referred, he gives two cases in which large doses were given; in the first commencing with six grains, in the second with one grain, and in each case extending to 35 grains twice daily.

The *phosphate* of zinc has been administered in epilepsy with success, by Dr. Barnes, and the lactate by Dr. Herpin, of Geneva.

Dr. Jackson, of the Metropolitan Free Hospital, has lately published 13 cases, in 12 of which he used the bromide of potassium. A considerable degree of success seems to have attended this mode of treatment, even in those cases which he designates "unsatisfactory," in the result. The dose varied from three to five grains given thrice daily.^c

Dr. Bristowe, of St. Thomas's Hospital, gives the case of an epileptic lad, aged 14, in which the lower extremities, while in the recumbent position, resembled those of a paraplegic patient, but yet without anaesthesia. Whereas, when he attempted to turn or get out of bed a sensation "of pins and needles" crept from the toes upwards, and was almost immediately followed by a fit. He got five drops of liquor arsenicalis in infusion of gentian, thrice daily, with the best results; and although the fits ceased at once, yet the aura remained for a time, and the liability to have fits from any excitement continued—"both of which points," the writer adds, "are quite compatible with the view that the amendment in this case was due to the use of arsenic, and indeed favour it."^d

Dr. Bennett, of the same hospital, lately had a case of epilepsy which terminated fatally; and, on *post mortem* examination, "the middle and lower lobes of the right cerebral hemisphere were found to be occupied by two cysts, of which the posterior was the larger, and contained about

^a See his report on its use in the British Medical Journal for 23rd November, 1855.

^b P. 95. London, 1860.

^c See Medical Times for Dec. 21, 1861.

^d See Medical Times for Jan. 11, 1862.

eight ounces of clear fluid."^a These cysts he looks on as parasites, probably entozoa, as the case is headed "Echino-coccus in the Brain;" and as no other morbid appearances were found in the body, he reasonably concludes they caused the epilepsy to which the patient succumbed.

It is a striking proof of the littleness of our knowledge of some of the most fearful changes the human frame is called on to undergo, that in many cases of epilepsy no morbid appearance can be found on which even the most fanciful conjecture may be hazarded as to the cause of the disease.^b

FEBRUARY 26, 1862.

Delirium Tremens.—DR. CUMMINGS read the following case:—

Mr. —, aged 25, inherits an hereditary predisposition to dysomania, as his father died of delirium tremens at the age of 25. Has been for some years addicted to dissipation and intemperance; but, as far as I can learn, does not steadily indulge in alcohol, the turn of his vice being rather to enjoy what young men call "a spree" for some weeks, returning after each to comparatively steady habits. Of late, however, the lucid intervals have become less and less frequent; and some time since there were one or two threatenings of delirium tremens.

A few months ago he had venereal, which was treated with mercury. On the 24th of January, 1861, he called on me, and informed me that, six weeks before, he had contracted gonorrhea and superficial ulcers on prepuce and glans, for which he used no medical treatment. The latter still continued, and were now accompanied by a suppurating bubo in each groin. These I opened, and touched the ulcers with caustic, &c., &c.

After a day or two he called again, when I found him much improved, and, besides the usual remedies, ordered him to take the Turkish bath. He left Cork almost immediately after this, and went to a provincial town, where he not only completely neglected his health, but ran a most fearful career of drink and dissipation. He did not return to Cork until the end of March, and was not found by his friends until the 23rd, when I was immediately called to see him, and found him in the following condition:—Ulcers on penis still open; buboes healed; rupial crusts on ala of nose, cheek, neck, thighs, and body; alcoholic breath; ferrety eyes; constant tremors; vomiting; tongue furred, moist, and tremulous; excessive thirst; epigastric tenderness; pulse 100, feeble; skin clammy

^a Medical Times, Jan. 25, 1862.

^b That very common coincidences may sometimes have no connexion with this disease, is evident from a curious case given by Dr. Winslow (op. cit., p. 697), where, from the discharge of a tapeworm, it was reasonably concluded that the cause of the disease has been discovered, and an immediate cure was confidently expected. Yet the fits continued; and a *post mortem* examination did not reveal any apparent cause for the severity and long duration of the cerebral disorder.

and perspiring. Has been constantly drinking, and has eaten nothing for several days; says he has slept well, but it is not easy to depend on his statements, as he is evidently not quite rational; bowels confined. I ordered him beef tea, a warm bath, a small quantity of wine, a purgative draught, and a grain of opium every third hour.

24th.—Has taken the pills regularly, but has slept none; tremors continue; some delirium; memory of last few days gone; stomach has not been sick since the draught operated; urine scanty and high coloured; pulse 90. Ordered to repeat the warm bath and purgative draught, to continue the pills, and to take a diuretic mixture.

25th. Has slept a little; is less fanciful, and more rational; appears much prostrated; pupils contracted. Omit pill; repeat purgative draught and diuretics; 40 minims of laudanum, with Hoffman's ether, to be taken at bed time, and repeated every three hours till sleep; half an ounce of brandy every three hours; beef tea, &c.

26th.—Spent yesterday well; free from vomiting and excessive thirst; took the laudanum at 11 P.M., and again at 2, as he had no sleep, and was very restless and excited; about 4 P.M. he jumped out of bed, and ran down stairs. He is greatly disturbed by visions and fancies—one of the latter being of a rather novel kind, that an electric battery is in his head. It is amusing, and at the same time melancholy, to witness the contortions of his countenance and entire frame when he fancies the electric circle is complete. I gave him immediately a double dose of the mixture, with an ounce of brandy, and directed a single dose to be given an hour after, if not composed. I also applied a cold water stupe to epigastrium, which tranquilized him much for a time. At half-past nine, as the symptoms continued, I gave him half a drachm of laudanum; and between that hour and nine gave him two doses more, with ammonia and brandy. He then dozed a little; but awoke, in a few moments, very much excited, and perfectly uncontrollable; he was then given another 40 minims of laudanum; so that in all, from 11 P.M. to the following 2 P.M., a period of 15 hours, he had taken nearly four drachms of laudanum without sleep. The symptoms seemed to have warranted this free exhibition of opium, as he was in so fearfully excited a state almost the entire time that he exhausted himself and the attendants who were trying to hold him. About half-past two he dozed; and shortly after was found by his attendants with his face and lips livid, bathed in cold perspiration; respiration deep and slow, only two or three in a minute. I happened, most fortunately, to arrive just at the moment, and found him with the cold sweat and pallor of death on his countenance, respirations deep and suspicious, only two or three in a minute; pulse exceedingly rapid, and almost imperceptible; pupils contracted to a pin's point. I had him at once raised up, well shaken, and slapped violently over the face and chest; sinapisms were applied to epigastrium and legs, and every other

means that could arouse him were adopted. After a short time he not only rallied, but became as wild and excited as before, requiring four men to hold him in bed. I administered stimulants freely, but would not allow him to lie down; and even when sitting erect, if left to himself for a few moments, from the wildest state of excitement he would suddenly become quiet, begin to nod, and doze off as he was. I allowed him to enjoy those snatches of sleep in the sitting posture, for some time; and at last permitted him to lie down, when I found, that if allowed to sleep for more than a few minutes, the respiration became less and less frequent, and the face more and more livid, until the frightful train of symptoms before enumerated was reproduced. From this state he could be aroused by the same means as before; but he relapsed again and again, alternating each with a wild fit of furious excitement, during which his muscular power was extraordinary.

I sat by his bed side for hours, permitting him to sleep as long as I thought he could do so safely, and then rousing him. Gradually each time the stupor became less and less deep, and the excitement less frantic; so that after an hour or so had elapsed I could let him sleep as long as half an hour at a stretch. In the evening Dr. W. Townsend saw him with me, approved of the way I was managing him, and added to the treatment a mixture of camphor and ammonia. Late in the evening I was able to leave him, when he slept seven hours continuously, and awoke perfectly rational and composed.

28th.—Slept much during the day, although the cutaneous irritation from the morphia, which has caused a rash like urticaria, annoys him much.

29th.—Was excited, and trembling again last night; but slept after taking half a drachm of laudanum.

After this the symptoms of delirium tremens did not return, but the primary and secondary venereal disease required careful and anxious treatment for some time. He ultimately recovered perfectly; the cure being much promoted by the Turkish Bath, which, in such cases, is an invaluable aid to medical treatment.

The symptoms of delirious excitement were greater in this case than in any other I have seen recover; and I have little doubt, that unless sleep had been procured, the system must soon have sunk exhausted—at the same time, we must admit, that the treatment had much to do with, indeed was the sole cause of the train of symptoms which were about to terminate life by apnea, when I opportunely arrived.

I find notes of a somewhat similar case in a valuable paper on Delirium Tremens, by Dr. Marston, republished in the last July Number of *Braithwaite's Journal*. A patient at 39, took at noon a drachm of laudanum, and as he vomited soon after, was given another half drachm at two. At three he said he thought he would sleep, and lay down. The

face became livid and the breathing heavy ; in about a quarter of an hour he had an epileptiform convulsion, two or three followed, and in about three quarters of an hour, he died with symptoms of apnea. At the *post mortem* D. M. could detect no organic disease to account for death ; the left ventricle of the heart, however, was in an advanced degree of fatty degeneration, and, *besides some venous congestion of the membranes of the brain, there were a few drachms of fluid in the cerebral ventricles.*

In considering the treatment of delirium tremens, it is necessary to remember that there are two forms of the disease, one occurring in the inveterate dypsomaniac, and attributed to withdrawal of the accustomed stimulus ; and the other in the occasional debauchee, what is called acute alcoholism. My patient exhibited a mixture of both ; for, while for months he had been almost constantly intoxicated, he had continued to take the stimulus almost up to the moment of being attacked by the disease.

In a simple case of acute alcoholism, where all admit that the poison is circulating in the blood, the most rational treatment would seem to be to act freely on the excretory organs, especially the skin, which nature so manifestly points to, and thus endeavour to eliminate the poison, after which, if sleep did not return naturally, there could be no objection to an opiate. The treatment of the other form seems equally simple, if it is admitted that withdrawal of the accustomed stimulus has produced a condition of nervous irritability and exhaustion, viz., to restore the stimulus and tranquilize the irritable nervous system by opium. These are the plans which are generally adopted, and under such treatment a large proportion of both classes of the disease recover ; but I think every one who has seen and read the history of fatal cases of delirium tremens, can hardly fail to believe that opium has assisted many of them to the other world, and that the contracted pupil which precedes death is rather a symptom of the medicine than of the disease.

Now, the case I have recited made me think very seriously whether opium is so very necessary in delirium tremens, as we generally suppose ; whether, in fact, the patients who recover, would not recover without the opium, and whether those who die might not have been saved if no opium had been given. In cases of acute alcoholism, I have no doubt that opium is at least unnecessary ; that the simple removal of the poison would restore the balance of the nervous system, and that sleep would necessarily follow of its own accord ; and I think it is a question fairly open to discussion, whether in the latter class the symptoms are due to withdrawal of the stimulus ; whether, in fact, they also are caused by circulation of the poison through the nervous system, rather than to exhaustion and irritation of that part. Now, on looking over a few authorities on this subject, I find that there is a difference of opinion regarding it among competent judges ; not a few holding that in no case is delirium tremens caused by withdrawal of the stimulus.

Dr. Marston's very able paper, illustrated by carefully registered cases, seems, at first sight, convincing as to the contrary, as he brings forward many instances of soldiers, supposed to be temperate, but discovered afterwards to be habitual soakers, being attacked by the disease a few days after admission into the hospital for trivial injuries, or confined in cells for punishment. But is there no other cause for the attack in such cases? I think there is; an active soldier drinks for years without ever making himself actually drunk (such is the history of these cases), until confined to bed or to a cell, when delirium tremens occurs; in fact, while going about exercising actively, the hydrocarbon is as gradually thrown off by respiration, evacuation, &c., as it is gradually imbibed; it is oxidized and eliminated by degrees, so that it scarcely exists in the blood at all as a poison, and does not affect the nervous system. But the habits suddenly change; no exercise is taken, oxidation and excretion are reduced to a low point, and the poison accumulates in its most dangerous form. It has been observed that the habitual drunkard does not get delirium tremens in prison, although there too "his grog is stopped." What is the cause of this exemption? Is it not probable that the exertion which is part of prison discipline, maintains the vigour of respiration, and general excretion intact?

We all know that the most fatal cases of delirium tremens are those which are complicated with disease of the lungs, liver, kidneys, or some other organ. Is this because the nervous system is in such cases more excitable? or is it because the natural vents for the poison are closed? we can scarcely doubt the latter. Now, if it is established that in all cases of delirium tremens the symptoms are due to alcoholic poisoning, can we with impunity give large doses of a medicine which undoubtedly reduces the frequency of respiration, and checks the function of all the excreting organs?

Dr. Thomas Laycock, in a paper published in the *Edinburgh Journal*, October, 1858, states that Dr. Ware of Boston, watched and described the disease as it ran its natural course, uninfluenced by remedies, and found "that it was a self-limited affection; dating from the time, when the state of entire watchfulness and delirium commences, he found that it terminated by natural sleep, in not less than 60 or more than 72 hours; the only cases in which death took place after sleep came on were those which had been treated by large doses of opium. He treated 29 cases on the expectant method, 1 died; 12 by emetics, 1 died; 8 with opium, 4 died." "Esquirol and Calmeil treated their cases by the expectant method, using no narcotics, only diluents and warm baths, with repose; in the large majority of cases recovery took place in four or five days." Dr. Laycock also mentions 28 cases treated by him (with one exception), without opium or stimulants, all of which recovered rapidly.

There are, of course, many points to be attended to in the treatment of delirium tremens, and the individual peculiarities of each case must guide us in it, as in the treatment of other diseases. I am far from being an advocate of leaving any case to nature, although I appreciate the value of being aware that this disease, as well as others, tends towards a natural cure. But the grand indication of treatment ought, I think, to be, to get rid of the poison, rather than to trust principally to a medicine which, by retarding excretion, counteracts the natural tendency towards cure. If sleep is in the early stages absolutely necessary, by reason of great excitement, then it seems to me that it can be more safely as well as promptly induced by the inhalation of chloroform than by opium; but if in the latter stages, after elimination has been freely promoted, sleep is not restored, moderate doses of opium can hardly be attended by danger.

There is a class of cases too, where patients, in good health otherwise, seem to be on the verge of delirium tremens, without actually suffering from the disease, where the natural revolution of the economy, which tends towards sleep at certain hours, has been broken, as it often is in analogous cases, by anxiety, prolonged study, or mental emotion; and in such cases after a warm bath and free purgation, a full dose of opium at bed time, acts like magic in restoring the diurnal revolution of the system. Such cases should not be confounded with true alcoholic poisoning; and it is very doubtful whether, even if left alone, they would run into delirium tremens. Such cases are exceedingly common, and probably have been one means of leading us to repose such confidence in opium as we have been in the habit of doing.

I have prolonged my remarks on this case further than I intended, although far less than the importance of the subject demands. I have said little of the use of stimulants. I believe they are often carried too far; and if it be true that delirium tremens really, in all cases, depends upon alcoholic poisoning, we are unquestionably adding fuel to the fire by administering alcohol in any form while the poison is still present in the system. It must not be forgotten, however, that want of sleep in itself tends to exhaust the nervous system, and that as the effect often outlives its cause, moderate stimulation may become necessary in the latter stages. It would be very desirable to put these views regarding the treatment of delirium tremens, to the test in one of our large hospitals, in the same way that Dr. Laycock has already done in the Royal Infirmary of Edinburgh. Prejudice is strong with us all in favour of treating delirium tremens with opium and stimulants, but, *if at the bed side* we find, as Dr. Laycock and others have done, that simple treatment is more efficacious and less dangerous than that we have been accustomed to, we ought to lay aside all our preconceived ideas, and adopt that which is proved most useful.

A Remarkable Case of Gun-shot Wound. By DR. BELCHER.—The following case was brought under my notice by Mr. Joseph O'Kelly, one of our most intelligent medical students; and, I have much pleasure in announcing, that I have induced the subject of my remarks to present himself to you for examination this evening.

Jeremiah Murphy, aged 27, a soldier invalided from the 40th regiment, was 14 days ill, previous to admission to the Fever Hospital, on the 10th February, 1862, when he presented the following symptoms:—Hemoptœe, pain under the left mamma, dyspnea, diarrhea, want of sleep, and great debility. The pulse was exceedingly feeble, never exceeding 72, and came down so low as 54.

After he had continued under the care of Dr. M'Evers for some time, he recovered from these symptoms, and is now apparently well.

In the course of his illness, the patient stated that he had suffered much inconvenience from the effects of a gun-shot wound which he received during an action with the natives in New Zealand, on the 27th June, 1860. While in the act of firing, he was struck by a bullet in the left shoulder; the ball penetrated and has not since been extricated. Previous to his being invalided, he was brought before a Medical Board at Fort Pitt, when, according to the patient's statements, the general opinion was, that the ball passed under and round the bone, wounded the left lung, and lodged in some unknown spot in the side.

The reasons which probably influenced this opinion were:—1. The exostosis or splintered state of the upper part of the humerus. 2. The spitting of blood and pain in the left chest at and for some time after the injury. 3. Emphysema of the same lung; and 4. Pain about the intercostal spaces at the left side, where they presumed the ball had lodged.

Others were of opinion that the ball remained in the neighbourhood of the shoulder joint.

Poisoning by Aconite applied externally. By DR. BELCHER.

I beg to recall to your recollection a very interesting paper "On Poisoning by Aconite," which Dr. Atthill contributed to the 63rd number of the *Dublin Quarterly Journal of Medical Science* (Aug., 1861). In that contribution we are informed that the patient inadvertently swallowed part of a liniment containing the tincture of the root; and, after a hard struggle with the effects of the poison, emerged once more into this upper world a sound man.

In connexion with this I beg to relate a case in which the *external* use of the same preparation produced the undoubted symptoms of poisoning.

A short time since a young lady was tormented with facial neuralgia. Having tried various anodynes without any good result, I got some of the tincture already referred to, and carefully applied it to the face with a

feather. This was done only too effectually; for, before I was aware of it, the bottle, which contained half an ounce, and which was so covered by the label that the exact amount of its contents could not be clearly seen, was half emptied; and very soon the lady complained of numbness and tingling, commencing at the toes; this feeling increased, and crept gradually upwards, until the whole body was affected by it; she also felt slight muscular twitchings and nausea; and these were not diminished by the fear and anxiety with which her strange condition served to inspire her. The body became cold; and, as this increased, she was put to bed, and given wine, punch, strong tea and coffee, with the application of a hot water jar to the feet. The symptoms continued, until I had her put in a warm bath, and the whole surface of the body well sponged with water as hot as she could bear it. After the bath the symptoms gradually subsided; but she did not fully recover from the effects of the poison until the following morning.

My object in detailing this case is to bring under your notice the fact that the external application of the tincture of aconite may be so pushed to excess that very bad results—possibly death—might occur, and that therefore a limit should be put to its use. Neither by Taylor, in his *Medical Jurisprudence*, nor by Royle, in his standard work on *Materia Medica*, do I find any notice of the poisonous properties of this preparation as an external agent.

MARCH 12, 1862.

DR. POPHAM, President, in the Chair.

Abscess on the Convex Surface of the Right Lobe of the Liver.—DR. POPHAM exhibited the recent parts in the following case:

William Gall, aged 27, a sailor, was admitted under his care into the North Infirmary, December 31, 1861, with an enlargement of the right lateral and hypochondriac regions. He stated that he had been healthy up to six weeks before admission. His illness began with “a stitch” in the side, while he was aboard ship, rigors followed, and continued more or less since. As the fulness occupied the neutral ground between the liver and the right lung, a careful examination of his chest was made. Considerable dulness was found extending above the normal limits of the lung, and the lower intercostal spaces were protruded. The respiratory murmur, however, was distinct, both anteriorly and posteriorly. There was no expectoration, and but little dyspnea or cough; no sound of fluctuation was elicited upon succussion. The integuments over the tumour were intensely painful. The principal symptoms were, intermittent diarrhea; rigors, alternating with sweats; total loss of appetite, and thirst. His pulse was 104 per minute, but afterwards rose to 120. There was no jaundice, but a sallow tinge of the skin. His urine was

loaded with bile. He made some complaint of pain in the right shoulder, but it was not severe.

Upon a casual observation of the swelling, it presented the appearance of circumscribed abscess of the pleura; but a careful examination excluded such a supposition. A doubt, however, arose, whether the abscess was to be regarded as commencing in the liver and making way outwardly, or originating in the thoracic integuments, and either wholly confined to them, or else *secondarily* involving the structure of the liver. The tumour was successively treated by leeching and blistering, and other means, in the hope of putting it back, and with apparent present relief but no subsequent good effect. On the tenth day from admission the swelling pointed and was opened by Dr. Hobart, senior, with a trocar, and vent was afforded to a large quantity of a sero-purulent fluid. Upon exploring the cavity of the abscess with a probe, it was found to be very deep and extensive, and the ribs carious. From that period until his death, on February 24th, all except palliative treatment was ineffectual. The contents of the abscess became foul and putrid, and upon coughing used to pump out in large quantities. Hectic fever and vomiting, with colliquative diarrhea closed the scene.

The *post mortem* examination was made by Mr. F. A. Purcell, one of the most attentive and intelligent students of the hospital.

The convex surface of the right lobe of the liver was found closely adherent to the lower ribs, so as to form a circle of about four to five inches diameter. On breaking the dense adhesions which circumscribed the abscess, and with which the external opening communicated, an exit was given to about a pint of *white* fetid pus. The portions of the ribs connected with the abscess were so carious as to crumble in pieces, the periosteum being totally denuded over their surface. No communication existed with the pleura, neither was the diaphragm involved; the right lung was sound.

The convex surface of the liver which formed the inner wall of the abscess was hollowed out like a saucer, the surface being of a mottled bluish colour, more like the texture of lung than liver, and resembling the slate-colour tinge of some species of granite. A greyish thin superficial layer, which was apparently false membrane, covered the granitic-looking structure just described, and was capable of being dissected off. There was decidedly a loss of substance of the liver. Immediately beneath the bluish structure described, its texture became condensed to almost a cartilaginous hardness. The rest of the organ was not much altered or increased in bulk, but an abscess, about the size of a walnut, was found in the under surface of the left lobe. The gall bladder was full of thick orange-coloured bile. The intestines were not examined.

Dr. Popham remarked that, in weighing the probabilities as to whether the *point de depart* of the abscess was in the liver or the walls of the

thorax, he at first inclined to the latter opinion; but, upon a close examination of the *post mortem* appearances, he changed his views. The loss of substance of the liver, and the hard gristly substratum which formed the floor of the abscess, and consisted of condensed hepatic tissue, were quite characteristic of original suppuration of that organ. The large amount of pus discharged daily, was fully explained by the want of contraction in the condensed tissue above-mentioned, which prevented the closure of the abscess. The situation in which the tumour presented was unusual, the tendency of hepatic abscesses being to burst inwardly rather than by the intervention of thoracic adhesions. The absence of jaundice, as a symptom, was accounted for by the small and superficial portion of the liver which was engaged. The same circumstance explained the *white* colour of the pus, many writers considering the contents of deep-seated abscesses of the liver to have a tinge of brickdust colour.

Dr. W. C. TOWNSEND exhibited an enlarged heart:—

Pat Cowhig, aged about 30 years, over six feet in height, and proportionately stout, was admitted to the Workhouse Hospital in the middle of December. He had been for some time in the Workhouse previous to his seeking admission to hospital, and did not complain of illness. It was difficult, if not impossible, to obtain any accurate account of his previous history, except that he was a labourer, had served in the army for a short time, and was discharged with a temporary pension, which was now some time discontinued. States that he suffered from cough and difficult breathing for a long time, but still worked on. His appetite is good, and he has no idea of his dangerous state.

On admission he suffered from general anasarca; his breathing was hurried; the jugulars distended; surface of body cold; pulse, feeble; intense and extended dulness over cardiac region; crepitant râles over both lungs, anteriorly and posteriorly; impulse of heart strong, and a well marked murmur over the apex with the first sound which was quite inaudible in the neighbourhood of the sternum or aortic valves. This man remained in hospital, the dropsical symptoms gradually increasing. He died on the 6th of March. It was remarkable how little he complained, although he suffered very much, until a few days before his death, when he became quite delirious; threatening to destroy himself if not relieved.

Post Mortem.—The body extensively tumid, so as to require a shell of excessive dimensions to enclose it. On opening it I found it contained about nine gallons of serous effusion; the entire peritoneum of a whitish and sodden look from its being saturated in the same fluid, and showing slight traces of inflammation on the whole of its walls. The liver of large size, though otherwise normal, as were all the viscera, with the exception of the heart, which was immensely increased in size, though

its muscular substance, especially on the right side, was very flaccid. On opening it both auricles appeared very large, though the muscoli pectinati were nearly lost; the left ventricle was so much hypertrophied, at the expense of the right bulging into it, as almost to make it difficult to trace the right auricle from the ventricle; the valves, normal, with the exception of the mitral, which was extensively ossified; the semilunar valves normal, although the mouth of the aorta was very large and patulous, on which cause I think the excessive size and amount of effusion depended.

MARCH 26.

DR. POPHAM, President, in the Chair.

DR. SANDHAM exhibited a very interesting dead specimen of the chick of a pea fowl, and said, "Whether the little specimen be that of a peahen or peacock I cannot now decide; but if the latter, had it grown to mature age, it would have had many reasons for being prouder than a peacock. I received the specimen from my brother; it was hatched at Sanders' Park, Charleville, the residence of the late Colonel Sanders, and was seen to move about by many. It has four wings and four legs; two of those wings and two legs occupy the usual position. The two supernumerary wings articulate with the clavicular extremity of the sternum, or, at least, near the sternal end of clavicle. The shoulders of these wings look towards the throat of the bird, while the loose feathery portion passes down over the breast, where they lie when in a state of repose; and if flapped or used would rather tend to assist the natural wings—but in a very awkward way. The two additional legs articulate at a point anterior, but very adjacent to the spot where the natural legs join the body; their position is reversed, that is, the bend or angle looks backward, while the angle of the proper legs looks forward. The supernumerary alæ and legs are perfect in every particular. Had the creature lived, you would conclude from looking at the specimen, that any movements effected by the superadded wings and legs should be in direct opposition to the natural limbs; and you would be led to conclude, that if the creature wished to move forward it would use the natural wings and legs; whereas, if it desired to run backward, it would use the supernumerary locomotives. A party who saw it run, assured me that it moved the four legs something like the style of a quadruped; for the accuracy of this statement I cannot answer; but I would decide against the possibility of such movements, from the formation of the specimen.

It was, I am informed, killed by being constantly forced to move about for the satisfaction of bystanders. I fixed it on wires as you now see it, the better to exhibit its supernumerary limbs. It has rather a strange and awkward appearance, and is a singular freak of nature."

APRIL 9, 1862.

DR. POPHAM, President, in the Chair.

DR. W. C. TOWNSEND read the particulars of a case of Tetanus, admitted into South Infirmary, under his care. The notes of the case were taken by Mr. M'Dermott, Resident Pupil.

History of the case.—Early in the preceding week, he received a slight scratch on the back of the right hand, caused by a party, whilst at play, introducing his nail beneath the cuticle; it had not yet perfectly healed, but showed no signs of irritation. He had been in perfect health up to the afternoon of Monday, 24th, when, on returning home to supper, he complained of a stiffness of the jaws, which partially prevented his eating; he thought little of it, however, and went to bed; he could not sleep, and (in his own words), felt all the muscles of his body and limbs becoming stiff. This prevailed to such an extent in the morning, that a medical man was called in, who administered him some aperient medicines, yet, as he continued to get worse, he was brought to Hospital at 10 o'clock A.M. on Wednesday. By his friends he is reported to have been of nervous temperament, yet always enjoyed good health.

Symptoms on admission.—He presents all the appearance of one labouring under a severe attack of *opisthotonos*. The muscles of the back and lower extremities are highly contracted, as also those of the neck and abdomen—those of the latter as hard as a board. He complains of a severe pain along the region of the spine; the muscular spasms are violent and frequent, he can with difficulty put out the tip of the tongue, and swallows with much effort. The face, pale and anxious, together with the entire body, is bathed in a profuse acid perspiration; pupils are dilated and acting. Pulse rapid, about 120; respirations rather prolonged; asks continually for drinks, bowels not moved for the last two days. Ordered a turpentine enema immediately, five grains of calomel.

2 o'clock, P.M.—Was very restless since last report, and drank large quantities of whey and tea. Bowels slightly moved. Calomel repeated.

6 o'clock, P.M.—The entire day he has been quite conscious, and exquisitely sensitive to external impressions. The spasms have abated in violence and frequency. Pulse 110. Says he feels better. The arms and hands are only slightly affected. Ordered a dose of oil and turpentine immediately.

10 o'clock, P.M.—Bowels fully relieved; passed urine freely. Ordered calomel, two grains, immediately, to be freely supported with *diluents*.

Thursday Morning, 1½ o'clock, A.M.—Slept from 11 to 12 o'clock, it being the only sleep he had since Monday night. Wanders occasionally; is very restless and impatient, requiring constant attendance, drinks incessantly. For the last few hours he complains of pain under the sternum and along the spine; the spasms are increased in frequency, and

he is covered with sweat. Pupils variable, sometimes contracted, sometimes dilated.

8 o'clock, A.M.—The nurse states that he spent the interval since last report, rather quietly, slept a little, and had less delirium. He immediately recognized me, and said he felt better. Pulse very quick and irregular. Respirations difficult and prolonged; countenance pale, and very anxious; perspiration less. The lower extremities somewhat less contracted; he appears much wasted. I had but moved him in bed, when his face and entire body became suddenly convulsed; the countenance livid and contracted; the teeth inseparably clenched; he foamed a little at the mouth; respiration quick and difficult; he eagerly grasped anything within reach, and remained in this state about three minutes, when he began to respire more freely; the muscles of the face were so relaxed as to enable him to open the mouth; the tongue was drawn downwards and backwards, convex towards the hard palate. In the paroxysms the pupils were widely dilated and fixed; pulse weak, irregular and quick.

10 o'clock, A.M.—For the last two hours the convulsions have returned repeatedly, leaving him each time more exhausted. The spasms are also more violent and much more frequent. The delirium increases, yet at times he is quite collected and sensitive. Pulse very rapid and irregular. Ordered twenty minims of chloroform, the same of laudanum, with four drachms of brandy. This draught to be taken immediately, and to have, after two hours, ten minims of chloroform, twenty of laudanum, and four drachms of brandy. In consequence of his difficulty in swallowing the first dose, the second was not administered. He continues to get worse, convulsions and spasms occur almost uninterruptedly. Respirations particularly lengthened and difficult. Pulse extremely quick and feeble. Becoming quite delirious. He continued in this state for the ensuing few hours. Ordered brandy and beef tea enemas every hour. Brandy and water *ad libitum*. A teaspoonful of brandy, and twenty minims of laudanum every other hour.

3 o'clock, P.M.—He had obtained some little relief from a violent spasm, when he sunk back exhausted and quietly expired.

DR. WILLETT exhibited the kidneys and lungs of a patient who died in the Workhouse Hospital, and related the history of the case.

The following case, which Dr. Townsend has kindly allowed me to bring under your notice, is a case of Diabetes Mellitus, ending in phthisis, as is commonly the case with this incurable disease:—

Michael Murphy, aged 24 years, was admitted into the Workhouse Hospital on January 21, 1860. At that time he was passing about three pints of saccharine urine per diem, with a specific gravity of 1025,

to 1030. During twelve months from this time, he passed from 8 to 12 pints of the same urine per diem, the mean specific gravity ranging from 1035 to 1040. He was placed under the usual treatment for this disease, viz., brown bread and oleum jecoris aselli, and during its continuance regained health and strength in some measure; but, as soon as discontinued, viz., the brown bread, the sugar again appeared in the urine, and, after a severe struggle with himself, the poor fellow gave up the brown bread from intense disgust, and was allowed his usual meals. The disease from this time, August 20, 1861, gradually decreased, the sugar daily diminishing, as if the disease had exhausted itself. But now as incurable a one set in, viz., phthisis, with its evident signs of night perspirations, cough, hectic, &c. This has gradually increased up to the present time. About two months ago, he coughed up purulent matter, streaked with blood, in large quantities, but with very little fetor attending it. He then became excessively weak and anemic, suffered greatly from dyspnea, so that, during the last month of his life, he was supported by pillows at his back, night and day; the congested state of one lung, the right, and the emphysematous condition of the left, fully explain this, and he gradually sank till April 17, 1862, eased his sufferings.

Post mortem appearances.—The body excessively emaciated, not a trace of adipose tissue being visible under the skin, and the muscles of a bluish colour, their normal red colour being entirely lost. The lungs extensively disorganized, that on the right side completely bound down to the pleura and ribs, by very strong adhesions, which, at the apex, I could not separate by my fingers, but was obliged to cut, as you see by specimen; it is quite solid, as also is the entire of this lung. Either from tubercle, or its irritative effect, on cutting it open an immense amount of pus escaped, which I traced to a large vomica or abscess at the apex, and also I found a similar one in the middle of the same lung. I also beg you to observe the intense state of suppuration it is in, nearly approaching to the third stage of pneumonia, by Laennec called grey hepatization; or grey softening, by Andral, having both within and externally a yellowish or greyish colour, and when cut, exuding a yellow opaque purulent fluid, turgid somewhat with blood; that on the left side emphysematous. If you observe at the borders, on squeezing it, you will perceive the course of several small blood vessels, not yet obliterated by the enlarged air cells, showing that the emphysema was in this case recent. The heart was small, from the reason of the little amount of blood to drive through the body for its nutrition, and also of a pale colour. Liver normal, but rather enlarged. Stomach normal on the outside; on being cut open, full of thick gastric juice, very acid. Kidneys, as here seen, not much enlarged, and only in a very hyperemic state. Structure tolerably distinct, and showing how

very evanescent are the traces of this formidable disease. In regarding the prognosis of this disease, I think that we can never look for a successful cure, as, should the saccharine state of the urine cease, or the diabetes be cured, the general tendency is, as asserted by several authors, to pass either into phthisis or morbus Brightii. The tendency to phthisis we can easily imagine, in consequence of the tissues of the lungs being so poorly nourished, and its tendency thus to degenerate into tubercle, and this particularly so should the patient show any tendency to the strumous diathesis; its leading to subsequent atrophy of the kidneys also we may assume, in consequence of their hyperemic state, which is the first stage of Bright's disease, in consequence of their over-increased function, this hyperemic state soon leading to obstruction of the renal tubuli by fibrin, the pressure of this on the small capillaries tending to exudation of the albuminous portion of the blood as well as the increased action of the epithelial cells in the tubuli, which, with the pressure of the enlarged capillaries on their outside and loss of cells by desquamation, and entirely filling up the secreting portion, soon passes into fatty degeneration, or the small contracted or atrophied kidney. I think it is also very difficult to state whether the suppurative condition, or abscesses in the lungs in this case, arises from tubercle or chronic pneumonia, as, on feeling very carefully over both lungs, I could not trace a single hard substance between my fingers. We rarely see it so entirely consolidated with tubercle excepting in cases of tuberculous infiltration. But, if we argue that such is the case, how do we account for the entire mass of tubercles suppurating *en masse*, at the same time as to the tendency of tubercle to the upper part and pneumonia to the lower lobes, as well as to the arguments deduced for the preferable localities of each on the right or left sides. I find the best authors differing, and, on that account, deduce that we may consider the question as yet *sub judice*. I find that, after searching several books, it agrees with a form of pneumonia called chronic. Under this head I find that abscesses are frequently found; also, in another form of the same, the lung is found compact, and heavy, pitting little or none on pressure, not crepitant, tearing with difficulty, sometimes almost cartilaginous; when cut, exuding a purulent or mucopurulent fluid; the colour dull red, or yellowish brown or greyish. When distinct lobules are affected, the lung has an irregular, knotty feel; its volume is diminished sometimes. Abscesses exist within the hardened structure, and, in some instances gangrene was observed by Andral.

TRANSACTIONS OF THE BELFAST CLINICAL AND
PATHOLOGICAL SOCIETY.^a

NINTH SESSION 1861-1862.

Case of Tetanic Spasm, chiefly affecting the Extremities. By JAMES CUMING, A.M., M.D., Belfast.

On the evening of the 7th December, I was asked by a benevolent gentleman to see a youth, of between 16 and 17 years of age, who, he said, was dying. On reaching the house, I found the patient—a thin, nervous-looking lad—suffering from very violent pain in the region of the heart and in the limbs. On applying my hand over the precordial region, I felt the heart acting with a violent heaving impulse, shaking the patient with every pulsation, indeed I do not remember having ever felt a more forcible impulse. There was, however, no irregularity, and the pulse did not give any indication of the disturbance at the centre of the circulation, being 84, full, and not remarkably strong. The breathing was hurried. On examining the extremities, I found that the muscles of the forearm were rigid, the wrists slightly flexed, and the thumb drawn into the palm of the hand. The fingers, without being clenched, were so strongly flexed, that a moderate force was not sufficient to open them. The feet were turned inwards and the soles arched. There was no swelling of the joints, nor any tenderness on pressure. The patient told me that paroxysms occurred about every 10 minutes, and I remained in the house so as to have an opportunity of seeing one. When it occurred, the trunk and limbs became quite rigid and extended, the abdominal muscles were strongly contracted, and the patient screamed loudly.

Observing that the affection presented a distinctly tetanic character, I looked carefully for the affection of the facial muscles, which is so generally present in that disease, but I could detect no trace of it. The countenance was certainly for a moment convulsed with pain, but there was no corrugation of the brow, no risus sardonicus.

I inquired minutely and carefully as to the existence of any difficulty in mastication or deglutition, or of any painful spasm of the jaw, but the patient assured me that he had not suffered anything of the kind, and his relatives were confident that there had been no change whatever in his features or expression. He stated, however, that his tongue had been stiff, and the tip turned up, and that there had been some pains and rigidity in the sides of the neck.

The history of the case was as follows:—He was apprentice to a carpenter, and about a fortnight before, while working out of doors, had

^a These reports are supplied by Dr. Wm. M'Cormac and Dr. David Moore, Secretaries to the Society.

been one day exposed to much cold and rain. The day after, he had taken the cramps through his body and limbs. For eight days he had suffered from them, at first about every hour, but subsequently much less frequently, and three days before my visit, feeling much better, he had returned to his work. But the spasms recurred so violently, that he was obliged to return home, and from that day had become progressively worse. During the entire time, the pain about the ensiform cartilage was the most severe symptom under which he laboured; and his father, with whom he slept, said that he had been kept awake by the beating of his son's heart. The bowels had been pretty regular, and he had been besides two or three times smartly purged with salts and senna; no worms had been passed, and he had always had some appetite.

I ordered small doses of laudanum and tinct. hyoseyami, to be given during the night. In the morning I was agreeably surprised to find that he had slept a good deal, and that the spasms were much less frequent. During the intervals the heart's action was tranquil and quiet, and, even during a paroxysm, the impulse had a much less violent character than on the preceding night. There was no sign of organic disease. From that period the spasms diminished in frequency and in severity, the excited condition of the heart only occurring when the spasmodic attacks supervened, and soon subsiding after their cessation; and on the 13th I allowed him to rise, as no paroxysm had occurred for 24 hours.

The chief points of interest in this case are, I think, the absence of any affection of the muscles of mastication and deglutition, and the symmetrical affection of all the muscles supplied by the spinal nerves, and of that one of the so-called cerebral nerves, which presents, perhaps, the closest analogy to a spinal nerve, the hypoglossal.

It is also a question of some interest to remark how closely the symptoms resembled those of a case of poisoning by strychnia, especially when we consider that in all probability the exciting cause of the disease must be looked for in the repression of some excretory matter giving rise to an impure condition of the blood.

Bright's Disease of the Kidney ; Fever.—PROFESSOR FERGUSON brought before the society some particulars of a case which, at first, presented the aspect of simple fever. The case, however, did not follow the usual course of the disease. There was constant cough, great epigastric tenderness, and subsequently bloody stools. About 36 hours before death the patient became rapidly worse, and sank without any apparently sufficient cause. At the *post mortem* examination, all the mucous membranes were found congested, and in both kidneys the usual appearances of *morbis Brightii* were presented. The congestion of the bronchial mucous membrane accounted for the incessant cough. No history which could elucidate the case could be obtained.—January 4, 1862.

Popliteal Aneurism.—PROFESSOR GORDON introduced a patient who had been successfully treated for popliteal aneurism by compression. There only remained a small tumour in the ham of the size of a pigeon's egg.

Fracture of Femur ; Amputation.—PROFESSOR GORDON also exhibited the amputated limb, after mill injury, which had caused separation of the lower epiphysis of the femur, and extensive separation of the periosteum.

Epithelial Cancer.—DR. BROWNE exhibited two specimens of epithelial cancer which he had removed from the scrotum. He considered them excellent examples of the disease.

Rectal Tumour.—DR. BROWNE showed a remarkable tumour, removed from the rectum of a boy. It had been attached by a long fibrous pedicle which gave way under slight traction. Its appearance and size was that of a small strawberry. On section, and examination under the microscope, it indicated a striking glandular structure, containing numerous secreting cells, similar to the follicles of Liberkuhn of the large intestine, and lined with columnar epithelium of a very perfect kind.

Compound Fracture of Ulna ; Secondary Amputation.—DR. BROWNE exhibited a forearm which it had been necessary to amputate after severe mill injury. There was extensive laceration of the soft parts, and fracture with denudation of the ulna. In the first instance, after consultation, it was deemed advisable to attempt to save the limb, while it was requisite to remove the lower half of the ulna, the wrist joint being necessarily laid open. The case did not progress favourably, and secondary amputation was had recourse to with a good result. Dr. Browne considered that even had the limb been saved, its usefulness would have been seriously impaired owing to the loss of so large a portion of the ulna, and the destruction of the soft parts.

Caries of the Metacarpel Bones ; Amputation.—DR. BROWNE exhibited the fourth and fifth fingers, with portions of the corresponding metacarpal bones which he had removed from a patient admitted to hospital for what was at first a simple phlegmon. This had been treated in the usual way, and the patient left the hospital almost well. In a few days he returned, unhealthy action having set in ; and, on examination, the metacarpel bone of the third finger was found distinctly carious. It was surmised, but could not be clearly ascertained, that the fifth metacarpel was also diseased. Under the circumstances it was decided to amputate the diseased portions of the hand, and to be guided in the steps of the operation by the condition in which the fifth metacarpel might be found.

—January 11, 1862.

Melanotic Tumour of Orbit.—DR. BROWNE introduced a woman of 30

years of age, labouring under melanotic tumour of the orbit. In this case excision of the eye-ball, for melanosis, had been performed by him two and a half years ago. At that time the tissues external to the eye-ball were not affected. For 18 months after, the patient enjoyed good health, when a small tumour began to be observable at the inner canthus, growing slowly at first, but latterly with rapidity, extending down the cheek, and probably into the nasal cavity, as there is at present a sanious discharge from the nose. It is now of a year's duration, in length two and a half inches from the margin of the orbit to its extremity, and rotund in shape. Sensations of acute pain are occasionally experienced in the part, followed by a discharge of blood from the nares which relieves the pain for the time. None of her relatives suffer from any form of cancer, nor can any history of it be traced in her family. Dr. Browne stated that, under all circumstances, melanotic and cerebriiform tumours of the eye-ball are most liable to recur. In six cases of this form of disease in which he had extirpated the eye-ball, there was only one in which the affection did not return. Operative interference with this case would be useless now, the disease having implicated the wall of the antrum, and extended into the nasal cavity.

Congenital Cataract.—DR. BROWNE introduced a case of double congenital cataract in a boy of thirteen years of age.

Both eyes had undergone the "needle operation," and were progressing satisfactorily. Dr. Browne remarked, with respect to the period of life in which the operation should in such cases be performed, Mr. Saunders considered that it should be done early; whilst others held that there was a risk of too active absorption after needle operations in infancy. Dr. Browne agreed with Mr. Saunders, as when an early operation was had recourse to the children were enabled to be educated at a proper age, and the eyes had not acquired the habit of rolling about in search of light, which is extremely difficult to counteract when the muscles have once acquired it.

Since the operation the boy stated that all surfaces, whether prominent or not, appeared flat to him, and he evidently imagined all objects to be much nearer him than they really were, arising, no doubt, from the want of a proper idea of perspective.—*January 18, 1862.*

Cataract.^a—DR. BROWNE also introduced a case of double cataract in a girl of fourteen years of age, in whom one eye had been operated on.

The needle operation had been performed on the right eye on the 29th October. Smart inflammation ensued, persistent, requiring the repeated application of leeches. A small bit of the capsule of the lens still remained unabsorbed. Dr. Browne remarked that, when the lens is in a semi-fluid condition, there is much risk of inflammation if the needle be

^a This case is referred to in *Transactions* of October, 26.

too freely used. In this case, although its use had been slight, yet smart inflammation had set in.

This girl did not suffer from any inaccurate appreciation of distances, like the boy previously introduced, as her sight had been pretty good until two years ago.—*January 18, 1862.*

Strangulated Incarcerated Femoral Hernia.—DR. BROWNE read notes of a case of strangulated incarcerated hernia in a female of 40 years of age, in whom death had occurred from peritonitis, two days after the operation for the relief of the constriction.

The patient had laboured under incarcerated femoral hernia for the past two years, for which she had never worn a truss. On the 14th of the present month she first complained of pain in the site of the tumour.

On the 15th vomiting set in, and on the 16th she was admitted to hospital.

On admission she experienced general and diffuse pain over the whole surface of the abdomen—most marked in the vicinity of the tumour. Her face was pale, shrunken and anxious. Pulse 130, and scarcely perceptible.

On consultation with Dr. Murney it was considered advisable to operate, although sub-acute peritonitis had evidently set in.

Chloroform having been administered, the tumour, $3\frac{1}{2}$ inches in length by $2\frac{1}{2}$ in breadth, and in depth two inches, was cut down upon, the sac opened, and found full of apparently healthy omentum, on raising which, a knuckle of the ilium, three inches in length, of a very dark chocolate colour, but still retaining its glossy appearance, was found.

The stricture having been divided, the intestine was gently drawn downwards, when the part above the site of constriction being found healthy in appearance, the gut was carefully returned—due care being taken that no part of it was constricted by omentum.

After the operation the vomiting ceased, but the pain and tenderness of the abdomen still continued, and the pulse, which had risen under the influence of the chloroform administered, became almost as rapid and feeble as before. It was evident that the operation had afforded little or no relief to the shock inflicted by the strangulation of the bowel.

Next day, on finding considerable fulness of the great intestine, an enema of oil and turpentine was exhibited without effect.

The patient gradually sank, and died on 18th, 51 hours after the operation.

On *post mortem* examination, the great omentum was found much congested in its upper and middle portions; its lower border being inflamed, in a soft and ragged condition, and coffee coloured in appearance. It was adherent by lymph to the inner aspect of the opening through which the protrusion had occurred.

The small intestine, generally, was congested, and for the distance of several feet, on either side of the constricted portion, presented marks of inflammation, with spots of lymph exudation, of the size of a shilling, or larger, scattered over its surface. The part which had been engaged in the protrusion was highly inflamed, of a dark chocolate colour (which scarcely seemed, however, so dark as at the time of the operation), its surface being studded with lymph exudation.

Parietal peritonitis existed over the lower three-fourths of the abdominal cavity, which contained a pint and a-half of effused serous fluid.

The ascending and transverse colon were full of feces.

Dr. Browne remarked, that although the presence of peritoneal inflammation, in cases of strangulated hernia, renders the prognosis very unfavourable, still it should not deter the operator, as the inflammation frequently begins to subside on the relief of the stricture. He had lately operated for the relief of a strangulated femoral hernia, of four days' duration, where subacute peritonitis also existed, and where, on opening the sac, upwards of 40 ounces of highly coagulable serum flowed away; yet, on the relief of the constriction, the unfavourable symptoms gradually abated, and the patient did well.

On the Semeiotic Importance of the Frequency of the Pulse in Puerperal Women.

By PROFESSOR LEVY. Read at a meeting of the Royal Medical Society of Copenhagen, 28th November, 1861. Translated from the *Bibliothek for Læger* for April, 1862. By WILLIAM DANIEL MOORE, M.D., T.C.D., M.R.I.A., Honorary Member of the Society.

ONE of the questions which, from an early period of my clinical practice, I have endeavoured to clear up, has been that of the reality of the so-called milk-fever in childbed. In this point of view I instituted accurate investigations, three times daily, as to the state of all healthy puerperal women, and was, of course, obliged to direct special attention to the state of the pulse, the frequency of which, reckoned by a half minute pulse-glass, was constantly noted. These investigations were carried on with periodical interruptions, caused by intercurrent epidemics, during more than two years, and I thus learned to attach so much value to the semeiotic indications of the pulse, that I have since, for a long series of years, continued to note, morning and evening, the pulse in all puerperal women in the institution, from the birth of the child to the seventh or eighth day after delivery. It is, therefore, resting on no slight experience that I venture to express my conviction, that the pulse is the phenomenon which, above all others, is adapted to make us feel secure, uneasy, or anxious about the state of puerperal women; and which, consequently in

a high degree deserves our constant attention. Speaking generally, it is true that this conviction is participated in by most practitioners; but I have nowhere found the question better investigated than in a short article by Dr. M^cClintock, in the *Dublin Quarterly Journal*, for May, 1861, which, on account of the accurate agreement in many points between our observations, has been the immediate cause of my now communicating the results of my experience, which has, in many respects, been more extended.

The boundary between health and disease in puerperal women is certainly more difficult to determine than most people are inclined to admit. In its latent form puerperal disease is not unfrequently present before or during delivery; and even where it arises, as it generally does, after the birth of the child, the symptoms are often so obscure, and the whole course of the disease is so insidious, that much attention is required to discover it in time. What contributes still more to render the physician's position in this respect difficult, is the peculiar tendency found in many puerperal women, to conceal from him the subjective phenomena of disease, or at least to represent them as quite unimportant; a tendency which is, no doubt, in most cases, due to a desire to be, and to be considered, well, but which often depends upon a dread of disagreeable remedies, especially of leeches, and blisters; and in the common people is not unfrequently connected with the superstition, that if they once begin to use medicines the disease will then attain a fuller development. Unfortunately this tendency in puerperal women finds ready encouragement in a similar predisposition in the midwives, who are unwilling that their patients should be ill, and, therefore, during the first days after delivery gladly seek out, or accede to, any other explanation of the morbid perceptions of the latter, and by concealment or incorrect statements of facts mislead the physician. For the latter, therefore, nothing can be more desirable, than in a purely objective symptom, independent of all arbitrary representation, to have a somewhat reliable basis for his opinion as to the patient's state; and precisely such, I think, we have in the pulse, whose indications, when they are accurately observed, and duly estimated, will very rarely, indeed, deceive our expectation.

The quality of the pulse capable of giving most information in this respect is fortunately that which is most easily ascertained, and is least dependent on peculiar powers of observation. For while in other directions the finer shades of the rhythm, fulness, force, and form of the pulse have their unmistakable importance, it is chiefly its frequency we must attach importance to in reference to the subject under consideration. As a general rule we may lay it down that a pulse of 80 beats in the minute, or a little over that number, gives reason to feel secure as to the patient's state; that one of 100 must make us suspicious and uneasy about her health, while one of from 120 to 130 or more, indicates a

threatening, though in other respects more or less latent, puerperal disease.

That the action of the pains in natural labour, by reason of their powerful influence upon the nervous system, must also influence the contractions of the heart, and, therefore, the pulse, was to be assumed *a priori*, and has lately been proved by direct measurement of the latter. But just like the nervous system the pulse, in general, becomes, with surprising rapidity, quiet after delivery is over, and in the healthy puerperal woman the equilibrium is readily restored after the first rest, in a few hours subsequently to the birth of the child. If labour has been unusually slow or painful its influence on the frequency of the pulse may sometimes be still observed during the first day, just as in rare cases I have for the first couple of days remarked a disturbed rhythm in an irregular intermission, which can be ascribed only to abnormal innervation depending on the labour.

If the labour has a completely undisturbed course, the pulse also continues quiet, with slight fluctuations between 70 and 80, or between 80 and 90, generally a few beats more in the afternoon, but sometimes it is more frequent in the morning, and, when nursing begins early, most usually without being much affected by the secretion of milk. A quiet pulse belongs, therefore, to the physiological puerperal condition; and so long as it keeps quiet we may, in general, feel easy about the patient, even though, as I have sometimes seen, it should be remarkably slow, as 50 and under. Like every rule this also has, however, its exception; for we may sometimes in incipient metritis find the pulse for a short time so unaffected thereby, that if unacquainted with the fact we might be misled in our appreciation of the now intermitting, now remitting uterine pains; but if we visit the same patient after the lapse of only a few hours, the greatly increased frequency of the pulse will soon give certainty to our diagnosis.

In feverish puerperal patients the supervention of slowness of pulse is to be regarded as a very reassuring symptom, when this change is persistent, and is attended with a diminution of the other morbid phenomena. But we must beware of prematurely considering the slow pulse to be a certain sign of improvement, as we might otherwise often expose ourselves and others to bitter disappointment. For, leaving out of view that occasionally a transitory slowness of pulse may be due to an equally transitory action of medicines, as I have often seen to be the case after the use of opium in large doses, of digitalis, and of veratrum viride; there often occur, in the various forms of puerperal fever, remissions of the frequency of the pulse as well as of other morbid symptoms, which are sometimes well adapted to excite illusory hopes. Thus I have occasionally, in very considerable and extensive peritonitis, seen the pulse, a short time after a copious effusion, diminish so much in frequency, that from 120 or 130 it has sunk

under 100; indeed I even remember one case where for two or three days it fell to nearly 90 beats in the minute, until, probably in consequence of an exacerbation of the inflammation, it again assumed its former frequency, and death soon after followed. Much more frequently is the practitioner liable to be deceived in the pyemic form of puerperal fever, when the latter runs a less acute course and has not yet distinctly localized itself, as the pulse in the intervals between, and especially shortly before the recurrent cold fits, may sometimes sink almost to its natural slowness, and, when the paroxysms assume a somewhat regular type, might suggest the idea of a simple quotidian or tertian fever. But even when the pyemic process is distinctly localized in one or other organ, as in the cavity of a joint, or in the pleural sac, periodical remissions may sometimes (and even repeatedly) manifest themselves with a slowness of the pulse, which for a time reassures the less experienced, until a fresh deposition of pus, either in the same or in another organ, again produces the former frequency, and thereby dispels the illusion. Nay, even towards the closing stage of the pyemic morbid process, when everything appears as bad as can be, we may sometimes, immediately after the profuse perspiration, observe a temporary but striking slowness of the pulse, probably only a result of the extreme exhaustion.

As certainly as the slow pulse may in general make us feel secure as to the patient's state, so surely may it be said that the frequent pulse ought to make us suspicious, uneasy, and anxious about her, and in the same proportion as the quickness of pulse increases. But in estimating the signification of the frequent pulse, a stricter criticism is necessary, as in many instances an elevation of the pulse may be observed in perfectly healthy puerperal women, or, it may depend on other more or less latent morbid causes, quite unconnected with puerperal fever. Experience of this kind is easily collected in a lying-in institution; but such cases are only too readily overlooked in private practice; and yet their importance, in both a diagnostic and prognostic point of view, is great enough to give them a claim on the attention of every practical physician. In endeavouring, therefore, to give a sketch of the several influences which, in healthy puerperal women, or at least in such as are free from puerperal fever, may be the cause of augmented frequency of the pulse, I shall, like M'Clintock, lay special weight upon the—in a practical point of view—essential difference, whether the quickness of the pulse is *momentary*, *temporary*, or *permanent*, and I shall group the cases accordingly.

A *momentary* or *rapidly transient* frequency of the pulse may be produced in the puerperal woman by any unusual influence upon the nervous system, and may, therefore, be classed among the daily occurrences of the case. Its causes are, of course, extremely numerous, so that it is only as examples that I would mention a few: any mental emotion, childbed visits, the

advent of the physician, a request to be made of him, nursing the child, &c. Like the cause, the effect in such cases soon passes away, as a protraction or speedy repetition of the visit will easily demonstrate.

If the frequency of the pulse continues for several hours within the period of one day, we consider it to be *temporary*. Such is frequently observed during the first days of the puerperal state, as a result of want of sleep, or of disturbed rest at night, which, in private practice, is often caused by the restlessness of the child; in lying-in institutions, by the cries of the adjacent women in labour. If the sleeplessness be not caused by external disturbing influences, it deserves the physician's special attention, and must, if it be repeated next night, be counteracted by morphia, as the attendant nervous and vascular irritation might otherwise forebode evil to the patient.

Not very unfrequently the temporary rapidity of pulse is due to *stimulating ingesta* of various kinds. I have seen it produced by soup, coffee, wine, and brandy. If the physician quickly discovers and removes the cause, the consequences will not be of further importance. But if he be too confiding, or if the smuggling be too cunningly carried on, he may, in this manner, for several days be caused much uneasiness respecting his patient. I have myself seen many cases, where the wine or brandy flask, concealed under the clothes, was not discovered until the bed was changed.

A temporary frequency of pulse, but commonly in combination with increased cutaneous perspiration, is often the result of too high temperature in the lying-in room, produced in winter by excessive fires, in summer by the action of the sun's rays. On unusually hot summer days the pulse may thus be found elevated at the same time in the majority of the patients in the institution; and this effect of heat not unfrequently manifests itself in connexion with a perceptible tendency to hemorrhage.

Lastly, we must mention as a cause of the temporary frequency of pulse, the *mammary irritation* produced by the afflux of the milk, although this influence is far from affecting the majority of puerperal women, and still more rarely manifests itself by other febrile symptoms.

Permanent, I would call the abnormal frequency of pulse, when it continues during a great or the greatest part of the confinement; and precisely for that reason it is well adapted to cause anxiety about the patient. As such, we may meet with frequency of the pulse either in cases where no disease at all exists, or in cases where the morbid, but non-puerperal, cause of the rapid pulse is so latent that it can be discovered only by special investigation.

To the first category may be referred:—

(a) Cases of an *habitually frequent pulse*. Quite apart from all defects in the vascular system, or in the composition of the blood, there are rare cases where individuals, and I have specially observed it in women, in

the state of health, or upon any indisposition, habitually have a pulse ranging from 100 to 120. It is, of course, only accidentally that the physician's attention is directed to this point, either during a long acquaintance with the patient, or where the latter is himself conscious of the fact, and can inform his medical attendant of it. Thus it has often occurred to me with puerperal patients, that when they daily observed the dissatisfaction as to their state which I manifested, and at length comprehended, or accidentally heard, the reason thereof, they stated with a smile that the frequency of their pulse had before on many occasions been remarked by physicians, and, even without any illness, had usually continued with them.

(b) As a second rare cause of frequency of pulse in otherwise healthy puerperal women, I may mention the *horizontal position*. Without being able physiologically to explain the circumstance, I have, nevertheless, several times found that lying-in women whom, precisely on account of abnormal frequency of the pulse, the cause of which I could not ascertain, I have kept in bed long beyond the usual time, from the very day they first got leave to sit up, exhibited a considerable diminution in the quickness of the pulse, which afterwards continued. It would be very interesting to ascertain how far anything similar, which differs so much from general experience respecting the influence of the position of the body on the frequency of the pulse, is observable in other than puerperal patients.

(c) More frequently the abnormal quickness of pulse in puerperal women depends upon loss of blood in or after delivery. The toleration of loss of blood is, it is well known, exceedingly different in different individuals: thus, there are women in whom serious anemic symptoms manifest themselves after comparatively slight loss of blood, while there are others in whom such symptoms are not observed even after very considerable hemorrhage. But though other anemic symptoms be absent, the pulse is apt to be greatly affected, assuming a decided rapidity, which it retains for many days, most frequently in combination with a peculiar softness and compressibility, which usually disappears earlier. If the physician is acquainted with the preceding loss of blood in delivery, the frequency of pulse in such puerperal women will not surprise him; but quite at ease he, nevertheless, cannot be, inasmuch as it is certain that behind this quickness of pulse another may sometimes be concealed, dependent on an insidious and dangerous form of puerperal fever, to which, precisely, puerperal women after considerable loss of blood are particularly predisposed. However, the hemorrhagic frequency of pulse may mislead and prove highly disquieting to the physician, if he has not accurate information respecting the hemorrhage which occurred in or after delivery, either because the midwife did not consider it of sufficient importance to speak to him about it, or because, for her own reasons, she

will have wholly concealed it, or at least, have alluded to it as lightly as possible.

(d) Great influence on the frequency of the pulse must be attributed to *physically depressing or alarming circumstances*, especially to such as the patient has been subjected to for a long time before or after delivery. In private practice, where the physician is occupied solely with married women, and, moreover, chiefly in the better circumstanced classes of the population, influences of this kind are certainly rare, and I can therefore very well understand the incredulity of many physicians with reference to the importance of the psychical elements in the puerperal condition in general. But the case is different in lying-in hospitals, and particularly in large institutions where, as in ours, the mass of the patients are unhappy single women, or married women of the most depressed and needy class. Here, mental sufferings have their special home; here they claim the physician's constant attention; for here they play so important a part, that they may justly be considered as one of the elements most hostile to the state of health. How they act, it is certainly not possible always to demonstrate; their direct influence upon the nervous system will be denied by none, who is at all intimate with the etiology of convulsions, spastic labour-pains or mental disturbances in childbed; but that they may also indirectly undermine the natural state of the blood, and so predispose, or directly lead to the development of puerperal fever, has, at least in my opinion, so much empirical probability in its favour, that I have no doubt on the point. But apart from this, it is at least indubitable, that an abnormally increased frequency of pulse in childbed is often due exclusively to a more or less latent mental affection. So long as no other morbid symptoms manifest themselves, there is, indeed, reason for some uneasiness and for much attention to the patient; although often convalescence proceeds without much interruption, nevertheless, our uncertainty as to the patient's state will lead us to require a longer confinement than usual. But if, after the quickness of pulse has continued for some days, the patient becomes sleepless, loses her appetite, and finally, her interest in the child, the outbreak of mania is reasonably to be feared.

(e) Lastly, in otherwise healthy puerperal women, quickness of pulse may proceed from *suckling*, as occasionally in nervous females who do not bear nursing, any suction at the nipples is sufficient to produce an accelerated pulse, which continues until the supervention of other symptoms convinces the physician of the necessity of taking the child from the breast; or in women with sore nipples the pain of suckling produces an acceleration of the pulse, which, if the child is often applied, does not get time in the intervals to settle down.

We have hitherto considered only those cases where a more permanent, and therefore often very disquieting frequency of the pulse may take

place in puerperal women, *without* any morbid state to account for the same. We have still to allude to those cases where the cause of the quickness of pulse is not any puerperal disease, but another morbid state so latent that without special attention or investigation it might easily escape the physician's observation. To this class belong—

(a) *Pulmonary Tuberculosis* in its earlier stages, which constitutes a not very unfrequent complication of childbed. That the act of parturition, with its strain upon the organs of respiration and the pulmonary congestion of blood produced during the pains, as well as the altered state of the circulation of the blood occurring after delivery, may exercise an injurious influence on the tubercular disease pre-existing in the lungs, partly by exciting a congestive condition or insidious inflammation in the immediate vicinity of the tubercles, partly by inducing new deposits, is in itself probable enough. In reality this probability is not unfrequently confirmed by the insidious febrile action, which, in such patients, continues during the whole puerperal state, without manifesting itself otherwise than by the permanent quickness of pulse, and by a slight afternoon elevation of the temperature of the skin, and occasionally some tendency to nightly perspiration. The cough, under such circumstances, is often so inconsiderable that it is not observed or mentioned by the patient; and if the physician's constant attention to the suspicious state of the latter does not lead him at length to an accurate auscultatory examination of the chest, a misinterpretation of the whole case may easily occur, which in its consequences may be extremely prejudicial to the patient. I here refer especially to suckling, which, under such circumstances, ought most certainly to be as soon as possible given up, but which, when through want of appreciation of the patient's state is longer continued, will not unfrequently lead to a sudden development of pulmonary phthisis.

(b) That organic diseases of the heart, and especially valvular diseases, as the result of easily explicable action of parturition, may be the cause of a persistent quickness of pulse in childbed, is evident enough; but in this instance both other cardiac symptoms, and the patient's history of her case, will readily lead the physician on the right track.

(c) The *chloremic* quickness of pulse, which by no means rarely occurs in childbed, may sometimes be more deceptive. Where the chlorotic type of disease is strongly marked, this cause of frequency of the pulse will scarcely escape the physician's observation; but in the florid variety of chlorosis, or where the puerperal condition itself gives rise to ordinary congestions of the head and increased fulness of its capillary vessels, the chlorosis may readily be overlooked, and the frequent, somewhat undulating pulse may, for several days, cause constant anxiety respecting the patient.

(d) As occasionally the most latent cause of a persistent elevation of

the pulse in childbed, I may lastly mention *Bright's Disease of the Kidney* in its several gradations. At the period when I, with a view to ascertain the relation of albuminuria to pregnancy and parturition, at various times examined the urine of all the patients in the lying-in institution, I often observed an acceleration of the pulse in connexion with a considerable amount of albumen in the urine; subsequently by an opposite mode I arrived at the same result, for, in puerperal women, in whom no other reason could be found for a striking frequency of pulse, I not unfrequently, in examining the urine, found the latter albuminous. In slighter degrees of the affection the hyperemia or irritation of the kidneys, on which it depends, may disappear in the course of the convalescence; but I have also several times seen the albuminuria, although diminishing, continue so long, that the patient being otherwise quite well could no longer be retained in the hospital. In a few cases where the latent renal disease had attained a fuller development, the suspicious frequency of pulse led at length to an uremic condition, and so to death. Where a longer previous illness, a cachetic appearance, or more considerable œdematous infiltrations give the physician a hint thereof, this complication of the puerperal state will be sufficiently recognized; but sometimes, as is well known, all these indications are wanting, on which account the examination of the urine ought certainly never to be omitted in any case where none of the above mentioned causes of a persistent suspicious frequency of the pulse is to be discovered.

In conclusion, I have still to mention a peculiar variety of quick pulse in puerperal women, which, for many years I have at various times observed, and to which I have called the attention of others. For it I know no more suitable denomination than *the epidemic*, inasmuch as I am convinced that it depends upon an epidemic influence. Thus, daily reckoning the pulse of all the patients in the lying-in institution, it could not escape observation, that at certain times a quiet, and at other times a frequent, and even very frequent, pulse was the prevailing or predominant phenomenon; and continued observations have shown, that the prevailingly accelerated pulse always foreboded, or occurred simultaneously with, a periodically diffused unhealthiness among the puerperal women. In saying this, I am far from wishing to convey that the quick pulse in all or in the majority of the patients led to puerperal fever; on the contrary, it was only in some great epidemics that the disease attacked the majority of the patients, while, in general, it visited only a minority of them; and the majority were looked on with suspicion solely on account of the quickness of pulse. In the latter, the pulse gradually subsided during the last days of convalescence, without any other morbid phenomena; but often the disturbances in the secretion of milk; in the lochial discharge; in the action of the skin; or else, loss of appetite and a generally slow convalescence, gave to the confinement a peculiar

aspect which evidently deviated so much from the normal state of things that it must be regarded as dependent on the contemporaneously prevailing puerperal constitution.

This observation respecting a frequency of the pulse in puerperal women dependent, at times, only on epidemic influence, which I much desire to see tested in various quarters, though this can be done only in lying-in institutions, and in the course of a long series of years, is, in my mind, of no small pathological interest. For, as an epidemic influence in this direction can be considered only as prevailing through a peculiar change in the blood, which, therefore, at times becomes common to all puerperal women, but only in a greater or smaller number of these attains to the height necessary for an outbreak of puerperal fever, it seems to me that in this very point lies an exceedingly important argument for the decision of the much disputed question respecting the essential or primary nature of this disease, as well as for the justification of the pathological distinction between it and the local puerperal inflammations which physicians in general are only too much inclined to overlook or deny. In a practical point of view I have utilized my observation so far, that I have allowed a generally diffused quickness of pulse among the lying-in women in the institution, coinciding with the occurrence of some such cases, to act as a warning of an unfavourable puerperal constitution, and, as a hint at the time to limit the admissions as much as possible, for which the arrangement for scattered attendance through the town, of late years, affords facility. After some days, or a week or two, I have often found the state of things improved, and have then, by way of experiment, again permitted the unlimited admission of fresh patients, intending, according to circumstances, to allow it to continue or again to put the limitation in force. And I am, at least, convinced, that in the course of years I have, in this mode, not unfrequently succeeded in preventing or arresting the further development of commencing epidemics in the institution. That under epidemic circumstances of unusually extensive and intense nature this, as all other measures, will prove inefficacious, the last year's experience has unfortunately testified.

As the result of the foregoing observations and reflections, I have arrived at the conclusion, that the pulse glass, used with the necessary care, is a good and indispensable barometer, both of the individual and constitutional puerperal state; and I should rejoice, if by the statement I have made I have contributed to procure for this opinion the adhesion of the honoured members of the society.

BOOKS RECEIVED, NOVEMBER, 1862.

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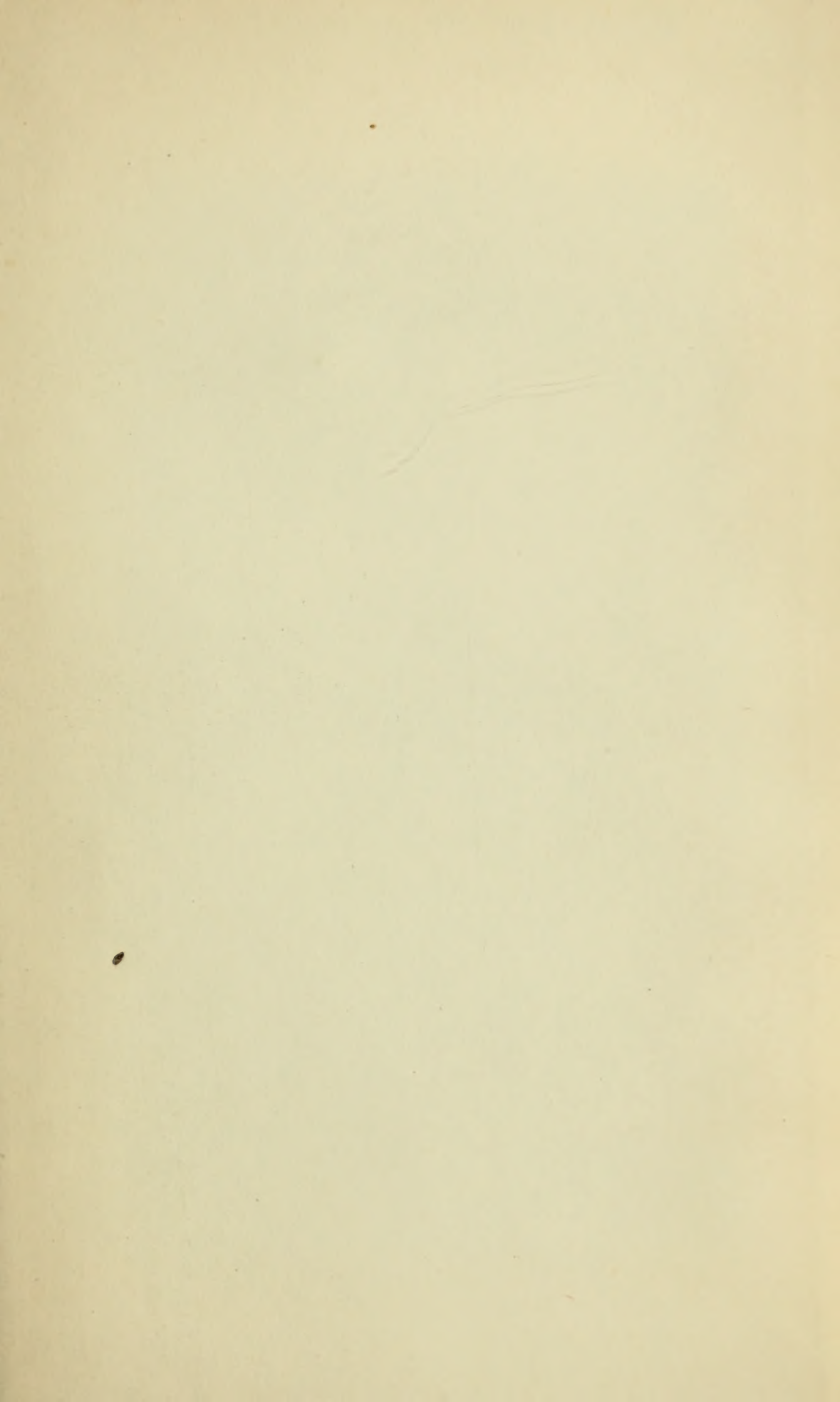
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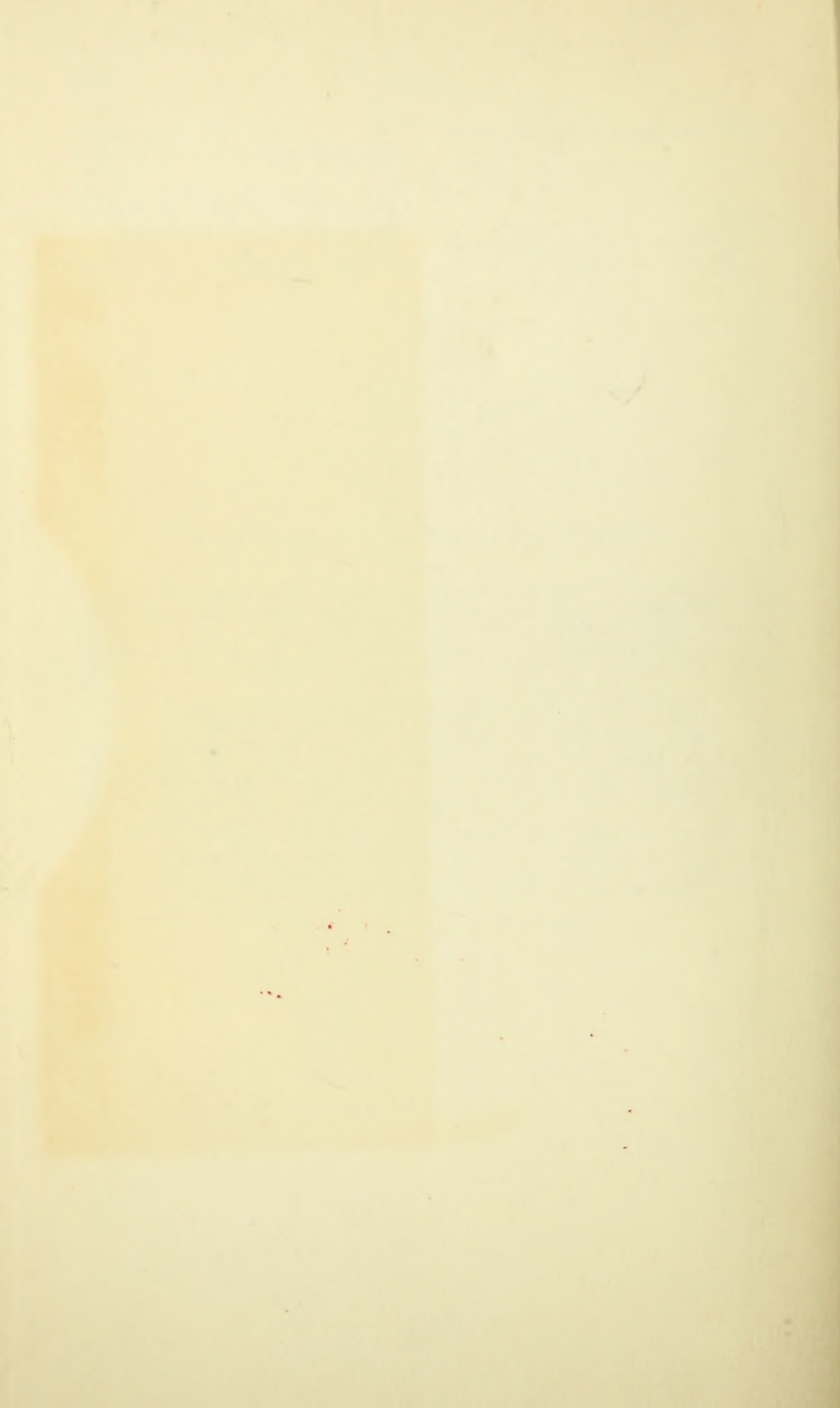
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